

USSR

UDC 669.71.046.44

LAGUNOV, YU. V., GLADKIKH, V. A., PETRUNOV, V. S., RUDENKO, V. K., VOYTANIK, S. T., KLIMKOVICH, N. S., PORADA, A. N., and CHERNYSH, F. I.

"Investigation of the Kaolin Sintering Process"

Metallurgiya i koksokhimiya. Mezhd. resp. nauchno-tekhn. sb. (Metallurgy and Coke Chemistry -- Interdepartmental Republic - Collection of Scientific and Technical Works), 1970, vyp. 21, pp 47-55 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 3 G143 by authors)

Translation: The authors work out the parameters of the sintering process for kaolins of the Glukhovetskoye, Prosyanyaya, and Novoseltskoye deposits in a laboratory sintering cup of square section with a sintering area of  $0.1 \text{ m}^2$  and with an exhaustor having an efficiency of  $0.5 \text{ m}^3/\text{sec}$ . Fe concentrate was used as an additive to lower the melting point of the sintering charge. The hygroscopic moisture content of both primary and secondary kaolins intended for sintering should range from 13 to 18%. The sintering of both primary and secondary kaolins is shown to be possible in principle. 5 tables.

1/1

UDC 669.71.053.24(088.8)

USSR

KHITRIK, S. I., GASIK, M. I., VUKOLOV, YE. A., KLINIKOVICH, N. A.,  
PORADA, A. N., LAGUNOV, YU. V., POLONSKIY, S. M., IORDANOVA,  
Z. A., MALYSHEV, V. I., YEMLIN, B. I., KASHKUL', V. V., MASHKOV,  
V. P. TSEYMAKH, N. L., YEM, A. P., CHERNYSH, F. I., and KOLNOGU-  
ZENKO, V. A., Dnepropetrovsk Metallurgical Institute

"Method of Smelting Abrasive Electrolytically Produced Corundum"

USSR Author's Certificate No 263635, filed 15 Oct 65, published  
10 Jun 70 (from RZh-Metallurgiya, No 11, Nov 70, Abstract No 11  
G101 P)

Translation: A method is proposed for smelting abrasive elec-  
trolytically produced corundum in a thermal furnace which involves  
deep fusion of alumina-containing charge with reducing agents.  
To increase the abrasive properties of corundum and to obtain  
in it a Ti oxide content of  $\leq 1\%$ , smelting is carried out on  
kaolin presintered with Fe-ore additive or scale in the amount  
of 20-30 wt % of the charge.

1/1

- 30 -

1/2 011 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--COMPOSITION OF DIETHANOLAMIDES OF SYNTHETIC FATTY ACIDS -U-  
AUTHOR-(03)-VOLKOVA, L.D., YATSENKO, L.V., PORATUYEVA, S.S.  
COUNTRY OF INFO--USSR  
SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (1), 37-9  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--ETHANOL, AMIDE, FATTY ACID, DEMULSIFICATION, CHEMICAL  
SYNTHESIS  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1997/0808 STEP NO--UR/0318/70/000/001/0037/0039  
CIRC ACCESSION NO--AP0119715  
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE—23OCT70

CIRC ACCESSION NO--AP0119715

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO OBTAIN 92-3PERCENT  
DIETHANOLAMIDE DEMULSIFIER FROM THE CONDENSATION OF ME ESTERS OF FATTY  
ACIDS WITH DIETHANOLAMINE (I) AT 100DEGREES, 0.2-0.3PERCENT NA AS THE NA  
ALCOHOLATE OF I WAS USED AS CATALYST. A 3PERCENT EXCESS OF I MUST BE  
USED. NAOME AS CATALYST GAVE A HIGHER YIELD, BUT THE PURITY OF THE  
DIETHANOLAMIDES IMPROVED DURING STORAGE.

UNCLASSIFIED

1/2 029 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--CENTRAL NEUROTROPIC ACTIVITY OF AMINOPROPYL AND AMINOPROPIONYL  
DERIVATIVES OF IMINOIBENZYL AND DIPHENYLAMINE AND ITS RELATION TO THE  
AUTHOR--(04)-LAPIN, I.P., KSENOFONTOVA, T.A., KVITKO, I.YA., PORAYKOSHITS,  
B.A.  
COUNTRY OF INFO--USSR

SOURCE--FARMAKOLOGIYA I TOKSIKOLOGIYA, 1970, VOL 33, NR 1, PP 8-13

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--NERVOUS SYSTEM DRUG, MOUSE, RESERPINE, CHOLINOLYTIC, TOXICITY,  
IONIZATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3004/1368

STEP NO--UR/0390/70/033/001/0008/0013

CIRC ACCESSION NO--AP0131791

2/2 029

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0131791

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPERIMENTS WITH MICE SHOWED THAT THE DECREASE IN THE BASICITY OF THE AMINO GROUP IN THE SIDE CHAIN OF THE COMPOUNDS GIVEN IN THE TABLE BELOW IS ACCOMPANIED BY REDUCTION, OR EVEN DISAPPEARANCE OF THE ANTIRESERPINE, ADRENO POSITIVE, AND CHOLINOLYTIC ACTIVITY. IT IS ASSUMED THAT SUCH ACTIVITY REQUIRES THAT THE PKA OF THE AMINO GROUP BE KEPT ABOVE 8.3. NO CORRELATION WAS SHOWN BETWEEN THE TOXICITY OF THE COMPOUNDS INVESTIGATED AND THEIR PKA VALUES.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--SYNTHESIS AND REACTIONS OF CHLOROPYRAZOLE ALDEHYDES -U-  
AUTHOR-(03)-PORAIKOSHITS, B.A., KVITKO, I.YA., SHUTKOVA, E.A.  
COUNTRY OF INFO--USSR  
SOURCE--KHIM. FARM. ZH. 1970, 4(3), 19-24  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--CHLORINATED ORGANIC COMPOUND, ALDEHYDE, ORGANIC AZOLE  
COMPOUND, CHEMICAL SYNTHESIS, MOLECULAR STRUCTURE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1997/0290 STEP NO--UR/0450/70/004/003/0019/0024  
CIRC ACCESSION NO--AP0119283  
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0119283

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A SERIES OF I AND II WAS PREPD. A COLD (0-5DEGREES) MIXT. OF 17.5 G DMF, 71.2 G POCL SUB3, AND 22.4 G I (R EQUALS H) (III) WAS SLOWLY HEATED TO 80DEGREES, THEN HEATED 8 HR AT 80DEGREES TO YIELD 70PERCENT (R PRIME1 EQUALS H, R PRIME2 EQUALS CL) (IV), M. 78-9DEGREES (PETROLEUM ETHER). ANALOGOUSLY, 60PERCENT 5,CHLORO,1,METHYL,3,PHENYL, PYRAZOLE,4,CARBOXALDEHYDE, M 63DEGREES (ETOH), WAS PREPD. ADDITIONAL PREPD. AND DERIVS. SHOWN ON MICROFICHE. FACILITY: LENINGRAD. TEKHNO. INST. IM. LENSOVETA, LENINGRAD, USSR.

UNCLASSIFIED



1/2 015 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--CRYSTAL STRUCTURE OF POTASSIUM ALUMINUM ETHYLENEDIAMINETETRAACETATE  
DIHYDRATE -U-  
AUTHOR--POLYNOVA, T.N., BELSKAYA, N.P., MARTYSENKO, I.I.,  
TURKDEGARCIBANUS, D., PORAYKOSHITS, M.A.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. STRUKT. KHIM. 1970, 11(1), 164-5  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--CRYSTAL STRUCTURE, COMPLEX COMPOUND, POTASSIUM COMPLEX,  
ALUMINUM COMPLEX, X RAY STUDY  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1987/0445 STEP NO--UR/0192/70/011/001/0164/0165  
CIRC ACCESSION NO--AP0104058  
UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--11SEP70.  
CIRC ACCESSION NO--AP0104058  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STRUCTURE OF THE TITLE COMPO.,  
KAlEDTA.2H SUB2 O, WAS DETD. BY SINGLE CRYSTAL X RAY METHODS. THE  
ORTHORHOMBIC LATTICE PARAMETERS ARE A 22.89, B 10.18, AND C 6.53  
ANGSTROM; Z EQUAL 4; AND THE SPACE GROUP IS P2 SUB 1 2 SUB1 2 SUB1. THE  
COMPO. IS ISOSTRUCTURAL WITH NH SUB4 COEDTA.2H SUB2 O AND RBCOEDTA.2H  
SUB2 O. THE AL ATOM IS 6 COORDINATE, BEING SURROUNDED BY 4 O ATOMS AND  
2 N ATOMS FROM THE EDTA ION (AL-O EQUAL 1.92-2.01 ANGSTROM, AL-N EQUAL  
2.03-2.04 ANGSTROM). THE H SUB2 O MOLS. ARE NOT COORDINATED. MARY  
FRANCES RICHARDSON.

UNCLASSIFIED

PROCESSING DATE--11SEP70

1/2 023

TITLE--CRYSTAL AND MOLECULAR STRUCTURE OF ACIDIC GADOLINIUM TETRAKIS  
(BENZOYLACETONATE) -U-

AUTHOR--BUTMAN, L.A., ASLANOV, L.A., PORAYKOSHITS, M.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. STRUKT. KHIM. 1970, 11(1) 46-53

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CRYSTAL STRUCTURE, MOLECULAR STRUCTURE, GADOLINIUM COMPOUND, X  
RAY STUDY, CRYSTAL LATTICE, COMPLEX COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1987/0313

STEP NO--UR/0192/70/011/001/0046/0053

CIRC ACCESSION NO--AP0103968

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0103968

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STRUCTURE OF HGD(BA) SUB4 TIMES XPIP (X APPROXIMATELY EQUAL TO 1) WAS DETD. BY SINGLE CRYSTAL X RAY METHODS, WHERE HBA IS (PHCO) SUB2 CH SUB2 AND PIP IS PIPERIDINE. THE MONOCLINIC LATTICE PARAMETERS ARE A 31.568, B 20.214, C 10.592 ANGSTROMS, AND GAMMA EQUALS 138DEGREES 10 MINUTES; Z EQUALS 4, AND THE SPACE GROUP IS B2-B. THE GO ATOM IS LOCATED ON A CRYSTALLOGRAPHIC 2 FOLD AXIS AND IS SURROUNDED BY 8 O ATOMS FROM 4 BA RINGS (GD-O EQUALS 2.38-2.42 ANGSTROMS). THE COORDINATION POLYHEDRON IS A TETRAGONAL ANTIPRISM WITH THE RECTANGULAR FACES PARALLEL TO THE 2 FOLD AXIS. THE PH RINGS OF THE BA IONS ARE ALMOST PARALLEL TO THE PLANES OF THE CHELATE RINGS. THE CHELATE RINGS ARE FOLDED BY 26-29DEGREES ABOUT THE O-O LINE. THE GD COMPLEXES ARE PACKED SO THAT THERE ARE CHANNELS BETWEEN THEM WHICH CONTAIN THE DISORDERED PIPERIDINE MOLS. THE MOL. PACKING EXPLAINS HOW PIPERIDINE IS LOST WITHOUT DESTROYING THE CRYSTALS.

UNCLASSIFIED

1/2 015  
UNCLASSIFIED  
PROCESSING DATE--11SEP70  
TITLE--CRYSTAL STRUCTURES OF BARIUM MOLYBDATE AND BARIUM TUNGSTATE -U-  
AUTHOR--BYLICHKINA, T.I., SOLEVA, L.I., POBEDIMSKAYA, YE.A., PORAYKOSHITS,  
N.A., BELOV, N.V.  
COUNTRY OF INFO--USSR  
SOURCE--KRISTALLOGRAFIYA 1970, 15(1) 165-7  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--CRYSTAL STRUCTURE, BARIUM COMPOUND, TUNGSTATE, X RAY  
DIFFRACTION, MOLYBDATE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1986/0017  
STEP NO--UR/0070/70/015/001/0165/0167  
CIRC ACCESSION NO--AP0102117  
UNCLASSIFIED

2/2 - 015

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0102117

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE CRYSTALS WERE SYNTHESIZED HYDROTHERMALLY. RESULTS OF THE GONIOMETRIC MEASUREMENTS AND UNIT CELL PARAMETERS COORDINATES OF THE ATOMS, AND INTERAT. DISTANCES OBTAINED FROM X RAY DIFFRACTION DIAGRAMS ARE GIVEN FOR BAWO SUB4, BAMOO SUB4, CAWO SUB4, SRWO SUB4, SRMOO SUB4, AND COMOO SUB4. THE LATTICE PARAMETERS FOR THE TITLE CRYSTALS ARE A EQUALS 5.614 PLUS OR MINUS 0.003 AND C EQUALS 12.719 PLUS OR EQUAL 0.003 ANGSTROM FOR BAWO SUB4 AND A EQUALS 5.62 PLUS OR MINUS 0.03 AND C EQUALS 12.82 PLUS OR MINUS 0.03 ANGSTROM FOR BAMOO SUB4. THE INTERAT. DISTANCES IN THE BAWO SUB4 POLYHEDRON ARE CLOSE TO THOSE IN SRWO SUB4, AND THE INTERAT. DISTANCES IN BAMOO SUB4 ARE CLOSE TO THOSE IN SRMOO SUB4 AND COMOO SUB4.

UNCLASSIFIED

USSR

UDC 548.736.5

BYLICHKINA, T. I., SOLEVA, L. I., POBEDIMSKAYA, YE. A., PORAY-KOSHITS, N. A.  
and BELOV, N. V., Moscow State University imeni M. V. Lomonosov

"Crystal Structures of Ba-Molybdate and Ba-Tungstate"

Moscow, Kristallografiya, Vol. 15, No. 1, Jan/Feb 70, pp 165-167

Abstract: Well faceted tetragonal crystals of  $\text{BaWO}_4$  and  $\text{BaMoO}_4$  were measured on the GD-1 optical goniometer. Clear crystals of  $\text{BaWO}_4$  and  $\text{BaMoO}_4$  of diamond brightness were obtained by the hydrothermal method at the Institute of Crystallography by L. N. Dem'yanov. The lattice parameters of the crystals were found to be the following: for  $\text{BaWO}_4$ ,  $a = 5.614 \pm 0.003 \text{ \AA}$ ,  $c = 12.719 \pm 0.003 \text{ \AA}$  and  $c:a = 2.26$ ; for  $\text{BaMoO}_4$ ,  $a = 5.62 \pm 0.03 \text{ \AA}$ ,  $c = 12.82 \pm 0.03 \text{ \AA}$  and  $c:a = 2.28$ . The coordinates of  $\text{BaWO}_4$  and  $\text{BaMoO}_4$  atoms are also given in a table. The interatomic distances of Ca-, Ba-, Sr-, and Cd-polyhedra were calculated. It was observed that the crystal structure of both crystals is of the Scheelite type.

1/1

Surgery

USSR

UDC 616-089.5:623.827

LUSHCHITSKIY, M. A., Maj Gen Med Serv, Doctor of Medical Sciences, POREMBSKIY, O. B., Col Med Serv, Doctor of Medical Sciences, and GRINEV, M. V., Lt Col Med Serv, Doctor of Medical Sciences

"Methods of Anesthesia Suitable for Surgery on Submarines"

Moscow, Voenno-Meditsinskiy Zhurnal, No 6, 1972, pp 68-71

Abstract: The limited medical personnel, equipment, and space available on submarines make inhalation anesthesia infeasible and limit the choice to the following methods. In cases of acute uncomplicated appendicitis -- premedication with long-action barbiturates or dimedrol, local anesthesia with novocain or trimecaine, and right paranephral block. In cases of acute appendicitis with peritonitis -- premedication and local anesthesia combined with intramuscular morphine-scopolamine or with intravenous drip-infusion of sodium thiopental dissolved in alcohol are recommended. In cases of perforated ulcer -- premedication, intravenous thiopental, local anesthesia, and local infiltration anesthesia. In cases of wounds in extremities -- anesthesia with available equipment, intramuscular morphine-scopolamine, and intraosseal anesthesia are suggested. In cases of abdominal wounds requiring laparotomy -- premedication, intravenous thiopental, and local anesthesia. The exact doses, timing, and 1/2



USSR

LUSHCHITSKIY, M. A., et al., Voenno-Meditsinskiy Zhurnal, No 6, 1972, pp 68-71

mode of administration are specified, and suggestions concerning advance preparation of solutions and training of personnel are made.

2/2

USSR

UDC 620.193.3

STRUNKIN, V. A., TSEYTLIN, Kh. L. and ~~PORET, E. N.~~, Scientific Research  
Institute of Organic Intermediates and Dyestuffs

"Combustion of Titanium and Its Alloys in Gaseous Chlorine"

Moscow, Zashchita metallov, Vol 8, No 1, Jan-Feb 72, pp 15-18

Abstract: Discussed is the combustibility of titanium and its alloys in gaseous chlorine as well as the effect of alloying on both inflammation and corrosion resistance of titanium in chlorine gas. Involved in the study were OT4-0, OT4-1, VT5-1, VT-14, Ti-Pd and Ti-Mo alloys of given compositions. The time from the input of chlorine gas to the moment of the specimen's combustion is termed "induction period". The duration of this period depends largely on the preparation of the specimen. A table shows the effect of temperature (30, 60, 90, 120 and 150°C) on the duration of the induction period of titanium alloys in dry chlorine gas as a function of preparation conditions. The VT5-7 alloy, being a stable alloy, took 352 and 206 hrs to ignite at 30 and 60°C, respectively. TU-14 ranked second. Freshly cleaned specimens demonstrated shorter

1/2

USSR

STRUNKIN, V. A., et al, Zashchita metallov, Vol 8, No 1, Jan-Feb 72, pp 15-18

induction periods. Metal chlorides with higher vapor pressures appear to react violently with chlorine. Of all experimental alloys, Ti-32% Mo was most stable and is recommended for components of experimental equipment using dry chlorine at temperatures not exceeding 60°C. (2 tables, 19 bibliographic references).

2/2

1/3 022 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--THE FOURTH SYMPOSIUM ON EQUILIBRIUM DIAGRAMS OF SEMI-CONDUCTOR  
SYSTEM --U-  
AUTHOR--(02)-SKUDNOVA, E.V., PORETSKAYA, L.V.  
COUNTRY OF INFO--USSR  
SOURCE--MOSCOW, NEORGANICHESKIYE MATERIALY, VOL 6, NO 5, MAY 70 PP 1036-9  
DATE PUBLISHED-----70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES, ELECTRONICS AND ELECTRICAL  
ENGR., PHYSICS  
TOPIC TAGS--SEMICONDUCTOR PHYSICS CONFERENCE, SEMICONDUCTOR PROPERTY,  
STOICHIOMETRY, HALL EFFECT, ELECTRIC PROPERTY, MAGNETIC PROPERTY,  
THERMOELECTRIC PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3006/0053

STEP NO--UR/0363/70/006/005/1036/1039

CIRC ACCESSION NO--AP0133927

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

2/3 022  
CIRC ACCESSION NO--AP0133927  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SYMPOSIUM WAS HELD SEPTEMBER 9-10, 1969 IN NOGINSK SCIENTIFIC CENTER. THE FOLLOWING PAPERS WERE DELIVERED: "THE EFFECT OF DEVIATIONS FROM STOICHIOMETRY ON THE ALLOYING OF LEAD TELLURIDE WITH IODINE" (INOVOSELOVA, A. V., ZLUMANOV, V. P., AND GAS'KOV, A. M.); "DEFECTS IN GALLIUM ARSENIDE" (BORISOVA, L. A., ZHELIKHIKAYA, E. I., AND MIRONOV, K. YE.); "EFFECT OF DEFECTS ON THE ELECTRICAL PROPERTIES OF CD SUB3 AS SUB2" (SHEVCHENKO, V. YA., GONCHARENKO, G. I., ZAYETS, I. F., AND OVDYAKIN, V. F.); "DETERMINATION OF THE CONCENTRATION OF CHARGED POINT DEFECTS IN THE SNTI-PBTE SYSTEM BY MEANS OF THE HALL EFFECT" (ORMONT, B. F., MILOSLAVOV, S. L., AND TAIROV, S. M.); "NATURE OF THE DEFECTS IN ALUMINUM NITRIDE" (GORBATOVA, A. G., AND KANYASHOVA, V. M.) "SYNTHESIS AND STUDY OF NONSTOICHIOMETRIC PHASES OF TiO" (AYBAZOV, M. I., DOMASHEVA, I. A., SARKISYANA, A. G., AND MURANEVICH, A. KH.) "EFFECT OF THE PARTIAL PRESSURE OF OXYGEN AND OF TEMPERATURE OF THE ELECTRICAL PROPERTIES OF LIQUID VANADIUM PENTOXIDE" (MUSIKHIN, V. I., PASTUKHOV, E. A., VATOLIN, I. A., AND LENINSKIKH, B. M.); "STUDY OF THE EQUILIBRIUM P-T-X DIAGRAMS OF OXIDES" (VOROB'YEV, YU. P., BOGDANOVICH, M. P., MEN', A. N., AND CHUFAROV, G. I.). KRESTOVNIKOV, A. N. AND ROMANTSEVA, A. A. DISCUSSED THE PHASE OF SINGLE CRYSTAL IN THE BI-TE SYSTEM. TSYPIN, M. I., OSTROVSKA, L. M., AND KHARITONOVA, L. O. TALKED ABOUT THE ROLE OF ELASTIC DEFORMATIONS IN THE FORMATION OF ADDITIONAL HEAT RESISTANCE OF THE CRYSTAL LATTICE, WHEN A COMPOSITION DEVIATES FROM STOICHIOMETRY.

UNCLASSIFIED

3/3 022

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0133927

ABSTRACT/EXTRACT--GORELIK, S. S., MALOVETSKAYA, V. M., BO NOVA, V. I., AND LETYUK, L. M. REPORTED ON THE THERMOELECTRIC AND MAGNETIC PROPERTIES OF ND SUB2 SE SUB3-ND SUB3 SE SUB4 AND SM SUB2 SE SUB3-ND SUB3 SE SUB4 SOLID SOLUTIONS. SADOVSKAYA, O. A., AND YAREMBASH, YE. I., STUDIED PHASE EQUILIBRIA IN THE EU-TE SYSTEM. BOL'SHAKOV, K. I., BOL'UNKOV, I. A., AND BELYANIN, A. F., DISCUSSED THE RELATIONSHIP OF DISLOCATIONAL STRUCTURE OF THE ALLOYS IN THE MG SUB2 SI-MG SUB3 SB SUB2 SYSTEM. LUFT, B. D., REVIEWED METHODS FOR ANALYZING SMALL AMOUNTS OF ADMIXTURES.

UNCLASSIFIED

USSR

UDC 002.704.31

SKUDNOVA, E. V., PORETSKAYA, L. V.

"The Fourth Symposium on Equilibrium Diagrams of Semiconductor Systems"

Moscow, Neorganicheskiye Materialy, Vol 6, No 5, May 70,  
pp 1034-1035

Abstract: The symposium was held September 9-10, 1969 in Noginsk Scientific Center. The following papers were delivered: "The effect of deviations from stoichiometry on the alloying of lead telluride with iodine" (NOVOSELOVA, A. V., ZLOMANOV, V. P., and GAS'KOV, A. M.); "Defects in gallium arsenide" (BORISOVA, L. A., ZHELIKHIIVSKAYA, E. I., and MIRONOV, K. YE.); "Effect of defects on the electrical properties of  $Cd_3As_2$ " (SHEVCHENKO, V. YA., GONCHARENKO, G. I., ZAYETS, I. F., and DVORYAKIN, V. F.); "Determination of the concentration of charged point defects in the SnTe-PbTe system by means of the Hall effect" (ORMONT, B. F., MILOSLAVOV, S. L., and TAIROV, S. M.); "Nature of the defects in aluminum nitride" (GORBATOVA, A. G., and KAMYASHOVA, V. M.) "Synthesis and study of non-stoichiometric phases of  $TiO$ " (AYBAZOV, M. I., DOMASHEVA, I. A., 1/2 SARKITSYANA, A. G., and MURANEVICH, A. KH.); "Effect of the

- 13 -

USSR

SKUDNOVA, E. V., et al, Neorganicheskiye Materialy, Vol 6,  
No 5, May 70, pp 1034-1035

partial pressure of oxygen and of temperature of the electrical properties of liquid vanadium pentoxide" (MUSIKHIN, V. I., PASTUKHOV, E. A., VATOLIN, I. A., and LENINSKIY, B. M.); "Study of the equilibrium p-T-x-diagrams of oxides" (VOROB'YEV, YU. P., BOGDANOVICH, M. P., MEN', A. N., and CHUFAROV, G. I.). KRESTOVNIKOV, A. N. and ROMANTSEVA, A. A. discussed the  $\alpha$ -phase of single crystals in the Bi-Te system. TSYPIN, M. I., OSTROVSKAYA, L. M., and KHARITONOVA, L. D. talked about the role of elastic distortions in the formation of additional heat resistance of the crystalline lattice, when a composition deviates from stoichiometry. GORELIK, S. S., MALOVETSKAYA, V. M., BUZANOVA, V. I., and LETYUK, L. M. reported on the thermoelectric and magnetic properties of  $\text{Nd}_2\text{Se}_3$ - $\text{Nd}_3\text{Se}_4$  and  $\text{Sm}_2\text{Se}_3$ - $\text{Sm}_3\text{Se}_4$  solid solutions. SADOVSKAYA, O. A., and YAREMBASH, YE. I., studied phase equilibria in the Eu-Te system. BOL'SHAKOV, K. A., BUL'ONKOV, I. A., and BELYANIN, A. F., discussed the relationship of dislocational structure of the alloys in the  $\text{Mg}_2\text{Si}$ - $\text{Mg}_3\text{Sb}_2$  system. LUFT, B. D., reviewed methods for analyzing small amounts of admixtures.

2/2



Acc. Nr:

AP0052077

Ref. Code: UR0415

PRIMARY SOURCE: Vrachebnoye Delo, 1970, Nr 2, pp 101-104

STATE OF THE DIGESTIVE ORGANS IN WORKERS OF THE PHENOPLAST  
AND AMINOPLAST PRESSPOWDER PRODUCTION

A. I. Kleyner, L. P. Rutshteyn, M. B. Poretskaya, S. S. Kangelari

Results indicate that persons working in the production of phenoplast and amino-  
plast presspowders and articles made of them show a more frequent incidence of chronic  
gastritis with preserved secretion, mainly functional disorders of external secretion of the  
pancreas and liver.

Hygienic measures are suggested.

REEL/FRAME  
19820615

USSR

UDC: 532.536.013.2

KRAVTSOV, N. A., PORFIR'YEV, S. K.

"The Problem of Unstable Filtration of Liquids in a Medium with Elliptical Boundaries"

Tr. Sev.-Kavkaz. NII Prirod. Gazov [Works of Northern Caucasus Scientific Research Institute for Natural Gasses], 1972, No 5, pp 200-204 (Translated from Referativnyy Zhurnal Mekhanika, No 12, 1972, Abstract No 12B1110, by M. I. Khmel'nik)

Translation: Unstable filtration flow of water through the boundary of an oil stratum located in a water-bearing area is studied under the condition that the pressure satisfies the piezoconductivity equation

$$a \nabla^2 p = \frac{\partial p}{\partial t}$$

while the boundary of the oil deposit is an elliptical cylinder. Two cases are studied: the boundary of the water-bearing contour is an ellipse, confocal with the boundary of the oil deposit, or similar to it. A conformal

1/2

USSR

Kravtsov, N. A., Porfir'yev, S. K., Tr. Sev.-Kavkaz. NII Prirof. Gazov, 1972, No 5, pp 200-204.

mapping is selected, for which the system of corresponding ellipses (lines of equal pressure) is converted to a system of concentric circles, and the piezoconductivity equation is converted to a system of coordinates in which the variables are the radii of these circles  $r$  and the central angles  $\phi$ .

An approximate method is presented for solving these equations; the solution is sought in the form  $P(r, \phi, t) = \bar{P}(r, t)P(\phi)$ , where  $\bar{P}$  is the mean pressure along the ellipse, and the problem is thus reduced to solution of the equation for variables  $r$  and  $t$ . The author notes that the results of numerical solution of the precise equation and the approximate equations produced give satisfactory agreement, and also studies the problem of the possibility of replacement of the elliptical area of filtration with a circular area (in order to simplify calculation).

1/2 025 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--GEOCHEMICAL COMPARISON OF CRUDE OILS FROM THE URYCH OIL FIELD -U-  
AUTHOR--(03)-PDRFIRYEV, V.B., KRAYUSHKIN, V.A., KAZAKOV, S..  
COUNTRY OF INFO--USSR  
SOURCE--DOPOV. AKAD. NAUK UKR. RSR, SER. B 1970, 32(4), 327-9  
DATE PUBLISHED-----70  
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MATERIALS  
TOPIC TAGS--CRUDE OIL, GEOCHEMISTRY, VANADIUM, NICKEL, OPTIC PROPERTY,  
CHEMICAL COMPOSITION, GEOGRAPHIC LOCATION, PETROLEUM DEPOSIT  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3005/2005 STEP NO--UR/0442/70/032/004/0327/0329  
CIRC ACCESSION NO--AT0133840  
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0133840

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OIL IS PRODUCED FROM THE UPPER EOCENE AND PALEOCENE FORMATIONS IN THE TITLE FIELD. BOTH PETROLEUMS HAVE A NEARLY SIMILAR SET OF TRACE ELEMENTS IN THEIR ASHES, A V-NI RATIO OF 0.4 AND 0.6, D. OF 9.8707 AND 0.8735, RESIN CONTENT OF 16 AND 15.3PERCENT, ASH CONTENT OF 0.16686 AND 0.0107PERCENT, AND SIMILAR OPTICAL ACTIVITY. THE HIGHER ASH CONTENT IN EOCENE OILS WAS ATTRIBUTED TO A POSSIBLE SECONDARY ASSIMILATION OF ASH ELEMENTS FROM SEDIMENTARY FORMATIONS DURING MIGRATION OF OIL OVER A LONGER DISTANCE. ALL THIS INDICATED A SINGLE DEEP SEATED SOURCE FROM WHICH BOTH PETROLEUMS MIGRATED VERTICALLY ALONG THE FAULT ZONES. FACILITY: INST. GEOL. NAUK, KIEV, USSR.

UNCLASSIFIED

1/3 031 UNCLASSIFIED PROCESSING DATE--11DEC70  
TITLE--ASH COMPOSITION OF CRUDE OILS FROM THE FRASNIAN STAGE OF PRIPYAT  
BASIN--U-  
AUTHOR--(03)--PORFIRYEV, V.B., KRAYUSHKIN, V.A., KAZAKOV, S.B.  
COUNTRY OF INFO--USSR  
SOURCE--DOPLV. AKAD. NAUK UKR. RSR. SER. 8 1970, 32(2), 121-4  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--PETROLEUM DEPOSIT, GEOGRAPHIC LOCATION, CRUDE OIL, COMBUSTION  
PRODUCT, CHEMICAL COMPOSITION, VANADIUM, ZINC, IRON, COBALT, CALCIUM,  
SILVER, CHROMIUM, BARIUM, COPPER, LEAD  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY FICHE NO----FD70/605060/E07 STEP NO--UR/0442/70/032/002/0121/0124  
CIRC ACCESSION NO--AT0144401  
UNCLASSIFIED

2/3 031

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AT0144401

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ELEMENTARY COMPN. OF ASH OBTAINED FROM CRUDE OILS OF 5 WELLS OF THE RECHITSA OIL FIELD AND OF A WELL OF THE OSTASHKOVITSE OIL FIELD, RECENTLY DISCOVERED IN THE PRIPYAT BASIN OF BELORUSSIA, IS TABULATED. THE D. OF THE RECHITSA PETROLEUMS VARIES FROM 0.852 TO 0.866, THE AV. TAR CONTENT IS 20 VOL. PERCENT, AND THE ASH CONTENT IS 0.0099-0.018 WT. PERCENT. THE D. OF THE OSTASHKOVITSE PETROLEUM IS 0.8200, THE TAR CONTENT 12 VOL. PERCENT AND THE ASH CONTENT 0.002 WT. PERCENT. THE MAIN COMPONENT OF THE ASH WAS NI; FROM 31.4 TO 63.5PERCENT IN RECHITSA SAMPLES, AND 28.7PERCENT IN THE OTHER. NEXT IN THE ORDER OF CONC. WAS NA; FROM 2.0 TO 25.1PERCENT IN THE RECHITSA SAMPLES, AND 21.5PERCENT IN THE OSTASHKOVITSE SAMPLE. CONCNS. OF V, ZN, FE, CO, AND CA VARIED IN MOST CASES FROM 1 TO 5.2PERCENT. ALSO PRESENT WERE AG (10-110 TIMES 10 PRIME NEGATIVE5PERCENT), AL (0.11-0.65PERCENT), BA (0.022-0.31PERCENT), CD (0.16-0.70), CR (0.07-1.07), CU (0.018-0.72PERCENT), LA (0.002-0.006PERCENT), MG (0.12-0.57 IN RECHITSA SAMPLES, BUT 3.4PERCENT IN THE OSTASHKOVITSE SAMPLE), MN (0.021-0.080PERCENT), MO (0.0016-0.0056), PB (0.029-0.10PERCENT), SI (GREATER THAN 3.0PERCENT IN ALL SAMPLES), SN (0.019-0.026PERCENT), SR (0.020-0.132PERCENT IN RECHITSA SAMPLES, BUT 0.25PERCENT IN THE OSTASHKOVITSE SAMPLE), TI (0.019-0.038PERCENT), AND ZR (0.0009-0.0016). BE WAS DETD. ONLY IN ONE OF THE RECHITSA SAMPLES (6.3 TIMES 10 PRIME NEGATIVE5PERCENT), WHILE BI WAS PRESENT IN ANOTHER RECHITSA ASH (9.2 TIMES 10 PRIME NEGATIVE4 PERCENT). THE V-NI RATIO VARIED FROM 0.0118:1 TO 0.95:1 IN THE RECHITSA SAMPLES, AND IT WAS 0.00453:1 IN THE OSTASHKOVITSE SAMPLE.

UNCLASSIFIED

373 031

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AT0144401

ABSTRACT/EXTRACT--ALL OF THE PETROLEUMS STUDIED WERE CONSIDERED TO BE GENETICALLY RELATED AND DERIVED FROM A COMMON DEEP FORMATION POOL. ONLY BE, BI, MD, SN, AND ZR COULD NOT BE CONSIDERED AS THE INVARIABLE COMPONENTS OF THESE PETROLEUMS. GEOL. CROSS SECTIONS ARE REPRODUCED WHICH GIVE, TO A CERTAIN EXTENT, AND EXPLANATION OF THE ENRICHMENT OF THE CRUDE OIL IN THE ASH COMPONENTS DURING ITS MIGRATION. A CONNECTION WITH THE CARBONATE COLLECTORS OF THE SEMILUTSK-BUREG-VORGNEZH HORIZON OF THE UPPER DEVONIAN FRANSIAN STAGE IS DISCUSSED AND CONSIDERED POSSIBLE.

FACILITY: DERZH. NAUK.-DOSLID, PROEKT. INST. NAFTODUBOV. PROM., KIEV, USSR.

UNCLASSIFIED



1/2 023 UNCLASSIFIED PROCESSING DATE--11DEC70  
TITLE--GEOCHEMICAL ASPECTS OF PETROLEUM MIGRATION IN THE BORISLAV OIL POOL  
-U-  
AUTHOR--(C3)-POKIRYEV, V.B., KRAYUSHKIN, V.A., KAZAKOV, S.B.  
COUNTRY OF INFO--USSR  
SOURCE--DUPLOV. AKAD. NAUK UKR. RSR, SER. B 1970, 32(5), 398-400  
DATE PUBLISHED-----7C  
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MATERIALS  
TOPIC TAGS--PETROLOGY, GEOCHEMISTRY, PETROLEUM DEPOSIT, GEOGRAPHIC  
LOCATION, CHEMICAL COMPOSITION, CRUDE OIL, NICKEL, VANADIUM, COPPER,  
MAGNESIUM, IRON, LEAD, ZINC, SILVER  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY FILM NO----F070/605060/F05 STEP NO--UR/0442/70/032/005/0398/0400  
CIRC ACCESSION NO--AT014415  
UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AT0144415

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COMMON ORIGIN OF ALL OILS IN THE TITLE PCOL AND THE VERTICAL MIGRATION FROM SOURCE ROCKS INTO CORRESPONDING TRAP STRUCTURES WERE PROVEN BY GEOCHEM. STUDY OF OILS FROM 9 DEPOSITS. THE SET OF CHEM. ELEMENTS, CHARACTERIZING THE AT. SPECTRAL COMPN. OF ASHES FROM OILS, IS SIMILAR FOR ALL 9 PRODUCTIVE HORIZONS STARTING FROM OLIGOCENE FORMATIONS IN THE BORISLAV UNDERTHRUST TO MIOCENE RESERVOIR ROCKS IN BORISLAV ANTICLINE. NI, V, CU, CO, MG, FE, AG, PB, AND ZN, WHICH ARE PRESENT AS ORGANOMETALLIC COMPODS. OF PORPHYRIN TYPE, HAVE GENETIC CORRELATION SIGNIFICANCE, SUGGESTING THAT ALL OILS WERE DELIVERED INTO RESERVOIR ROCKS FROM A SINGLE DEEP SEATED SOURCE ROCK. FACILITY: INST. GEOL. NAUK, KIEV, USSR.

UNCLASSIFIED

USSR

FORFIR'YEVA, N. N.

UDC: 535.8

"Concerning the Structure of the Spectrum of a Spatially Periodic Signal  
at the Output of a Scanning System"

Leningrad, Optika i Spektroskopiya, Vol 33, No 3, Sep 72, pp 547-552

Abstract: The author calculates the spectra of spatially periodic signals at the output of an image-producing scanning system using checkerboard test patterns and test patterns with sinusoidal distribution of radiance. The spectral structure and shape of the envelope are studied, and the width of the spectral band is estimated. The results of calculation and analysis of both types of spectra show a line structure and identical width of the spectral band. However, the intensity of the lines differs, and in the case of the checkerboard field depends on the spatial frequencies in two mutually perpendicular directions, and also on the velocity of the linear component of scanning due to the presence of two branches in the spectrum. These differences indicate the advisability of using standard spatial signals with two-dimensional periodicity such as a checkerboard field.

1/1

- 115 -

USSR

UDC 778.155.43:778.19

BATALOV, YU. V., MIROSHNIKOV, M. M., Doctor of Sciences, and PORFIR'YEVA, N. N.,  
Candidate of Sciences

"The Contrast Method of Processing Mars Photographs"

Leningrad, Optiko-Mekhanicheskaya Promyshlennost', No 9, Sep 73, pp 11-12

Abstract: The usefulness of the contrast method of processing photographs has been proven useful for improving the quality of the investigated photographic images. In this article are presented the procedure and results of processing, by the contrast method, six photographs of Mars taken from a space vehicle. An analysis of the photographs obtained as a result of the contrast treatment shows that this method makes it possible to resolve additional details of the features of Mars, that are not visible or are poorly distinguishable on the initial plate. 10 figures. 3 references.

1/1

- 92 -

UDC: 519.2

USSR

NESTERUK, V. F., PORFIR'YEVA, N. N.

"The Problem of Recognizing Two Objects in the Presence of Interference in the Channel as Solved by the Theory of Games in Positional Form"

Probl. peredachi inform., 1973, 9, No 1, pp 98-103 (from RZh-Kibernetika, No 7, Jul 73, abstract No 7V205 by the authors)

Translation: A previous paper (RZhMat, 1969, 10V326) dealt with the problem of recognizing two signal sources described by an antagonistic game. This paper deals with the problem of recognizing two signal sources in the case of a potential zero situation when neither of them falls into the sphere of observations. The problem reduces to a game in positional form; optimum strategies of the system of observation are found as well as the index of recognition, and the part played by the zero situation is evaluated.

1/1

- 18 -

USSR

NESTERUK, V. F., et al., Izvestiya vysshikh uchebnykh zavedeniy--Radioelektronika, Vol XIV, No 8, 1971, pp 944-945

variable parameters). The results are illustrated by an example of a binary transmission system for equiprobable transmissions encoded by pairs of signals with sign manipulation over a channel with fading with the additive effect of normal white noise. The reception algorithm is outlined, and the method of polarity comparison [Petrovich, Peredacha diskretnoy informatsii v kanalakh s fazovoy manipulyatsiyey, Soviet Radio Press, 1965] is found to be the optimal method of reception of a sign manipulation signal in the class of Bayes two-channel receiving systems with signals with random normal amplitude.

2/2

- 125 -

USSR

NESTERUK, V. F., PORFIR'YEVA, N. N.

"Application of the Theory of Statistical Resolvings to the Problems of Optimal Signal Reception by Two-Channel Systems"

Kiev, Izvestiya vysshikh uchebnykh zavedeniy--Radioelektronika, Vol XIV, No 8, 1971, pp 944-945

Abstract: The interaction of signals and noise, receiving and resolving systems in the single-channel version was described earlier [Van Mater, et al., Trans. IRE, PCIT-4, 119, 1954]. An analogous interaction scheme is presented here where the signal and observation spaces are subdivided into two parts; and their interaction provides for the presence of two channels. The system is made up of a receiving-resolving unit in the form of the decision function which depends on the observed signals in the two channels. Comparison of the systems and the method of studying them based on risk theory shows that the two channel system is completely described by the distribution functions not of one but two vector arguments in the corresponding spaces of the signals and observations. The expression for the average risk is obtained for the practical case of a finite number of signals with random parameters (channels with

1/2

USSR

UDC 615.214.32.099

MITROFANOV, V. S., RUNOVA, M. F., UL'YANOVA, O. V., and POBETI'VEVA, R. P.  
Institute of Pharmacology, USSR Academy of Medical Sciences, Moscow

"Evaluation of the Toxicity of Fluoracisine"

Moscow, Farmakologiya i Toksikologiya, No 5, Vol XXXIV, Sep-Oct 71, pp 540-542

Abstract: Fluoracisine (hydrochloride 10 (  $\beta$  -diethylaminopropionil)-2-trifluoromethylphenothiasine) is an antidepressant whose possible undesirable side-effects is of medical interest.

Heart action, respiration, liver function and blood sugar were tested in groups of dogs administered 2.5 mg/kg fluoracisine daily for 30-45 days followed by an increase to 5.0 mg/kg for the next 25-35 days. A group of rats was also tested.

No effect on the cardiovascular system or liver was observed. However, skin lesions and a tendency to weight loss, as well as increased excitability, were produced. It is concluded that long-term administration of fluoracisine in effective dosages produces little or no toxic effect.

1/1

Pulse Technique

USSR

UDC: 681.327.13

PORTISKIY, O. V., SAGAYDAK, V. A.

"A Method for Magnetic Recording and Reproduction of Marker Pulses"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 6, 1970, p 36, patent No 262172, filed 22 Nov 68

Abstract: This author's certificate introduces a method for magnetic recording and reproduction of marker pulses by recording a harmonic signal and forming the marker pulses where the reproduced signal passes through zero. As a distinguishing feature of the patent, the linear density of marker pulse recording is increased by recording the harmonic signal simultaneously on several magnetic tracks. Playback of these tracks is done with the working gaps of the magnetic heads at an angle to produce a phase shift in the times when the signals played back from different magnetic tracks cross zero.

1/1



USSR

UDC 533.916

GABOVICH, M. D., PROTSENKO, I. M., and PORITSKIY, V. Ya.

"Double-Flow Instability of Interwoven Ion Beams Moving in a Single Direction Along an External Magnetic Field"

Kiev, Ukrainskiy Fizicheskiy Zhurnal. No 2, 1973, pp 308-310

Abstract: In an earlier paper published by the authors named above (Gabovich, M. D., et al, Doklady 8-y Mezhdunarodnoy koferentsii po yavleniyam v ionizovannykh gazakh, Vena -- Reports of the Eighth International Conference on Phenomena in Ionized Gases, Vienna --- 1967, p 366) the possibility of exciting oscillations in ion beams moving along a magnetic field with differing velocities was demonstrated; because the equipment used operated in the pulse mode, however, the spectra of the oscillations could not be observed. The present paper remedies this deficiency by describing experiments performed with equipment operating in the steady-state mode. A sketch of the equipment, containing two sources of helium ions in a current of the order of 5 ma and energies of up to 10 kev at either end of an evacuated chamber 70 cm long and 14 cm in diameter, is given. The spectra of the oscillations as functions of the difference between the beam energies are shown together with a curve  
1/2

• USSR

GABOVICH, M. D., et al, Ukrainskiy Fizicheskiy Zhurnal, No 2, 1973,  
pp 308-310

showing the dependence of the oscillation amplitude on the difference in beam energies. The facts uncovered by the experiments are found to be in agreement with the theory.

2/2

- 72 -

USSR

UDC 621.791.75.753

CHVERTKO, A. I., IVANOV, G. P., and FORKHUN, B. V., Electric  
Welding Institute imeni Ye. O. Paton of the Academy of Sciences  
UkrSSR

"A New Method of Arc Excitation in Hidden-Arc Welding"

Kiev, Avtomaticheskaya Svarka, No 4 (241), Apr 73, pp 44-45

Abstract: A new method of arc excitation in hidden-arc welding, developed by the Electric Welding Institute imeni Ye. O. Paton, is described. By this method, the end of the electrode is brought into vibration for the excitation time and its supply rate is decreased in comparison with the working rate. The vibration is produced in a direction perpendicular to the electrode axis. In this case, the electrode freely penetrates through the flux layer to the object, the clinker desintegrates, and the intermittent contact of the electrode end with the object contributes to a reliable arc excitation. The effectiveness of the described arc excitation is illustrated by an experiment carried out in two variants. Four bibliographic references.

1/1

USSR

UDC 624.07:534.1

PORKHUN, L. M.

"On Free Vibrations of a Beam Lying on an Elastic Nonlinear Base"

V sb. Analit. i kachestven. metody teorii differents. uravneniy (Analytical and Qualitative Methods of the Theory of Differential Equations -- Collection of Works), Kiev, 1972, pp 204-211 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V250)

Translation: The effect of small nonlinearities in an elastic base on free vibrations of a beam is discussed. Single- and two-frequency regimes of excitation under harmonic boundary and initial conditions were investigated. In the first approximation the oscillations of the beam are harmonic in the single-frequency regime and also in the two-frequency regime; any interacting effect is absent. Nonlinearity appears in the dependence of the frequency of the oscillations on the amplitudes of the initial conditions. 6 ref. T. D. Kudryavtseva.

1/1

USSR

UDC 624.07:534.1

PORKHUN, L. M.

"On the Problem of the Mutual Effect of the Shapes of Nonstationary Vibrations of a Beam on Which a Load Moves"

V sb. Analit. i kachestven. metody teorii differents. uravneniy (Analytical and Qualitative Methods of the Theory of Differential Equations -- Collection of Works), Kiev, 1972, pp 196-203 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V249)

Translation: The equation for transverse vibrations of a beam along which a load with a pulsating force supplied to it moves with a small velocity is discussed. A solution to the problem is sought in the form of the sum of four harmonics with variable amplitudes depending on time, which leads to a system of four equations for the amplitudes. Under the assumption of a single-frequency perturbation on the first (basic) frequency, a quasiharmonic solution is obtained. Eight parameters of this solution, variable amplitudes and phases, in turn are determined as the solution of a system of eight equations. This system can be solved numerically by computer. Characteristic phenomena arising under single-frequency perturbation of a system by several pulsating forces are briefly described. T. D. Kudryavtseva.  
1/1

USSR

UDC: 669.185.1

KOLGANOV, G. S., MATUKHNO, G. G., TUPITSA, V. I., PORKHUN, V. G.,  
SHEMET, G. A., OMES', N. M.

"Improvement of the Technology of Production of Type 07T1 Steel"

Moscow, Metallurg, No 10, Oct 73, pp 19-20.

Abstract: The Krivorog Metallurgical Plant has begun producing type 07T1 steel to replace type KOM steel for the manufacture of bailing wire. The new steel is made in 130-ton converters by the standard technology for manufacture of killed steel, with the maximum quantity of slag run off after completion of blowing. The remaining slag is thickened by addition of 1-1.5 t lime. The metal is tapped at a carbon content of 0.06-0.9%, at 1590-1605° C. The metal is deoxidized in the ladle with titanium sponge or ferrotitanium. During teeming of the steel, when the adjustable head is 1/2 full, liquid aluminum is added to the surface of the metal. The introduction of this step to the technology has reduced total reject rate for 07T1 steel from 1.50 to 0.45%. The quantity of nonmetallic inclusions in the metal is not increased.

1/1

-46-

1/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--PHASE DIAGRAM OF THORIUM TETRACHLORIDE URANIUM TRICHLORIDE AND  
PLUTONIUM TRICHLORIDE URANIUM TRICHLORIDE SYSTEMS -U-  
AUTHOR--(05)-DESYATNIK, V.N., NICHKOV, I.F., PORODNOV, P.T., RASPOPIN,  
S.P., SKIBA, O.V.  
COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., TSVET. MET. 1970, 13(1), 101-3

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--PHASE DIAGRAM, EUTECTIC MIXTURE, THORIUM COMPOUND, URANIUM  
COMPOUND, PLUTONIUM COMPOUND, CHLORIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3008/0628

STEP NO--UR/0149/70/013/001/0101/0103

CIRC ACCESSION NO--AT0137713

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0137713

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PHASE DIAGRAMS OF THE BINARY SYSTEMS THCL SUB4 UCL SUB3 AND PUCL SUB3-UCL SUB3 WERE INVESTIGATED. THCL SUB4-UCL SUB3 FORMS THE COMPD. 3UCL SUB3. THCL SUB4 UNSTABLE AT GREATER THAN 750DEGREES WHICH FORMS A EUTECTIC MIXT. WITH THCL SUB4. THE ONLY EUTECTIC IN THE THCL SUB4-UCL SUB3 SYSTEM IS AT 30 MOLE PERCENT UCL SUB3 AND 632DEGREES. IN THE PUCL SUB3-UCL SUB3 SYSTEM A COMPD. UNSTABLE AT GREATER THAN 700DEGREES (3UCL SUB3. PUCL SUB3, FORMS A EUTECTIC MIXT. WITH PUCL SUB3. THE EUTECTIC IN THE PUCL SUB3-UCL SUB3 SYSTEM IS AT 44 MOLE PERCENT UCL SUB3 AND 496DEGREES. FACILITY: URAL POLITEKH. INST., SVERDLOVSK, USSR.



USSR

UDC 62-531

RENTEL', V.F., POROKHIN, V.I.

"Hydraulic Spacing Tracking Drive"

USSR Author's Certificate No 256407, Filed 23/07/68, Published 27/03/70  
(Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'-  
naya Tekhnika, No 12, 1970, Abstract No 12 A275P by V.D.)

Translation: The drive system suggested consists of two double-action hydraulic cylinders (C), controlling and actuating, and a valve distributor, the stem of which is rigidly connected to the moving controlling C (CC), while the valve portion is rigidly connected to the nonmoving base. The control organ is connected to the shaft of the piston of the CC. The shaft of the piston of the actuating C (AC) is connected to the load. The cavities of the C are connected together, as well as to a source of pressure or drain through the distributor. Movement of the shaft of the piston in the CC is transmitted to the C, since its cavities at the initial moment of motion are covered with the distributor, and to the shaft of the distributor. One cavity of the AC is

1/2

- 20 -

USSR

RENTEL', V.F., POROKHIN, V.I., USSR Author's Certificate No 256407,  
Filed 23/07/68, Published 27/03/70 (Translated from Referativnyy Zhurnal  
Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 12, 1970,  
Abstract No 12 A275P by V.D.)

connected to the pressure supply, the other of the CC is connected to the drain. Movement of the AC piston is transmitted by means of the fluid to the CC piston which, by moving, returns the distributor stem to its neutral position relative to the valve, thus causing the AC piston to "track" the movement of the control organ. The control system includes an electric-hydraulic switch connecting the cavities of the AC to the drain, when the control organ is set in the central position, and a spring setting the position of the AC in the central position when its cavity is connected to the drain, in order to compensate for leaks and temperature deformations. One figure.

2/2

1/2 011 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--DISTURBANCES IN PLANT GROWTH PROCESSES DURING ZINC DEFICIENCY -U-

AUTHOR--POROKHNEVICH, N.V.

COUNTRY OF INFO--USSR

SOURCE--VESTSI AKAD. NAVUK BELARUS. SSR, SER. BIYAL. NAVUK 1970, (1),  
34-40

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--AGRICULTURE CROP, NATURAL FIBER, ZINC COMPOUND, PLANT  
PHYSIOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3004/0193

STEP NO--UR/0440/70/000/001/0034/0040

CIRC ACCESSION NO--AP0130952

UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0130952

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LEAVES OF FLAX GROWN ON ZN-FREE CULTURE MEDIA OR ON SOILS WITH LOW ZN CONTENT EXHIBITED CHANGES IN THEIR SIZE AND FORM. SIGNIFICANT HISTOL. CHANGES WERE OBSD. IN CHLORENCHYMA CELLS (INCREASE OF DIAM., DECREASE IN THE LENGTH OF CYLINDRIC CELLS). FACILITY: BELORUSS. GDS. UNIV. IM. LENINA, MINSK, USSR.

UNCLASSIFIED

Acc. Nr: **AP0038110**

Ref. Code: UR 0326

PRIMARY SOURCE: Fiziologiya Rasteniy, 1970, Vol. 17, Nr 1,  
pp 96-102

THE EFFECT OF INTERACTION OF ZINC AND COPPER AS PLANT NUTRIENTS  
ON MORPHOGENESIS AND THE PHOTOSYNTHETIC APPARATUS  
OF FLAX PLANTS

N. V. POROKHNEVICH

Laboratory of Photosynthesis, Byelorussian State University, Minsk

The effect of zinc and copper on the plant height, leaf size, number of chloroplasts, total photoactive leave area per unit leaf area and also on the green pigment content and dry weight of the vegetative organs of flax plants was studied. Zinc is found to enhance the physiological effect of copper until the latter exerts a toxic action on growth and development processes in flax. In this connection the concentration of copper in nutrient solutions containing zinc should be sufficiently low. Increase of toxicity of copper in the presence of zinc may be due to increased uptake of copper by the plants and also, possibly to acceleration of growth processes by zinc which results in boron exhaustion and hence to increase of copper toxicity.

REEL/FRA  
19731161

02

CS

USSR

UDC 621.774.35.001.4

PLYATSKOVSKIY, O. A., Doctor of Technical Sciences, POROKHNIKOV, YU. Z.,  
SULADZE, O. N., STATNIKOV, V. M., UBIRIYA, A. YE., Candidate of Technical  
Sciences, and TSERETELI, P. A.  
Principal Parameters of the Deformation Process by High-Temperature Thermo-  
mechanical Treatment of Pipes"

Dnepropetrovsk Metallurgicheskaya i Gornorudnaya Promyshlennost', No 4,  
(70), Jul-Aug 71, pp 34-37

Abstract: At many active pipe rolling plants, reduction mills can be utilized for high-temperature thermomechanical treatment (HTMT) of pipes. Workers of the All-Union Scientific Research Institute of Pipes and specialists of the Rustavsk Metallurgical Plant have developed the technology of HTMT of hot-rolled compressor pump pipes (73 x 5.5 mm) of carbon steels ( brands 20 and 35) and low-alloyed steel (36G2S) by rolling on a 20-cage reduction mill with rolls 350-400 mm in diameter. The HTMT technology is discussed by reference to diagrams showing the general arrangement and the change of the metal pressure on rolls under different rolling conditions. In HTMT the metal pressure on the rolls of pipes with precooling in deforming cases is approximately twice as high as in the standard process of hot reduction. Investigation data were used for planning an industrial experimental produc-  
1/2

USSR

PLYATSKOVSKIY, O. A., et al., Metallurgicheskaya i Gornorudnaya Promyshlennost', No 4 (70), Jul-Aug 71, pp 34-37

tion sector of high-quality compressor pump pipes. Two illustrations, one table, three bibliographic references.

2/2

- 72 -

POROKHOV, D. N.

|   |  |        |
|---|--|--------|
| Derugin, I. A.  | Opening Address .....  | Page 1 |
| Derugin, I. A.  | Laser Emission as an Information Carrier .....   | 1      |
| Derugin, I. A.  | Consideration of the Statistical Characteristics of the Signal and Noise in Binary Optical Communication Systems .....         | 13     |
| Soroko, E. M.   | Information Properties of a Hologram .....   | 25     |
| Milyugov, V. V.   | Carrying Capacity of a Generalized Physical Communication Channel .....  | 52     |
| Tatarnikov, V. T.,<br>Korodan, A. G.,<br>Prudnikov, I. N. | Prospects of the Development of Optical Communications Lines .....   | 58     |
| Porokhov, D. N.   | Characteristic Features of Information Transmission in Optical Communication Systems .....                                     | 72     |
| Milyugov, V. V.,<br>Korodan, A. G.                        | Transformation Properties of the Radiation Density Matrix for Linear Transformation of Canonical Variables .....               | 82     |
| Milyugov, V. V.,<br>Korodan, A. G.                        | Information Losses for Frequency-Time Mismatch of the Receiver with the Transmitter .....                                      | 89     |
| Levin, N. S.  | Suboptimal Filters for Detecting Fluctuating Poisson Signals Against a Background of Poisson Noise of Variable Intensity ..... | 95     |
| Kraft, V. V.,<br>Terpugov, A. F.                          | Heterodyne Receiver of Incoherent Optical Signals under the Conditions of Fluctuation Noise Effects                            | 102    |
| Radyuk, L. Ye.,<br>Terpugov, A. F.                        | A Target Search Problem .....  | 108    |
| Dolina, N. A.,<br>Terpugov, A. F.                         | A Suboptimal Algorithm for Detecting Fluctuation Poisson Signals .....   | 113    |
| Soroko, E. M.   | Coherent Optical Systems for Executing Linear Integral Operations .....  | 125    |
| Potomina, S. A.,<br>Terpugov, A. F.                       | Linear Systems for Determining the Time of Occurrence of Noise-like Signals .....  | 136    |



TECHNICAL TRANSLATION

Ref / FSTC-IT-23-3015-72

39 April 72

ENGLISH TITLE: PROBLEMS OF LASER BEAM DATA TRANSMISSION  
PROCEEDINGS OF THE FIRST ALL-UNION CONFERENCE, KIEV,  
SEPTEMBER 1968

RUSSIAN TITLE: PROBLEM PEREDACHI INFORMATSII LAZERNYM IZLUCHENIEM

AUTHOR: I. A. DERYUGIN, ET AL.

SOURCE: KIEV ORDER OF LENIN STATE UNIVERSITY  
INVENT T.O. SICHENIENKO

Translated for FSTC by AGSI

NOTICE

The contents of this publication have been translated as presented in the original text. No attempt has been made to verify the accuracy of any statement contained herein. This translation is published with a minimum of copy editing and graphics preparation in order to expedite the dissemination of information.

Approved for public release. Distribution unlimited.

- 1/111 Page -

USSR

UDG 621.376.56

POPCOV, C.N.

"Device For Reception of Bi-Pulse Signals"

USSR Author's Certificate No 253115, filed 9 Feb 68, published 9 Mar 70 (from RZh--Elektrosvyaz', No 3, March 1971, Abstract No 3.64.91)

Translation: With the object of obtaining maximum noise-proofing of transmission systems with pulse code modulation which use a bi-pulse form of videosegment, it is proposed to introduce a storage circuit into the receiver between the amplifier and the gate circuit; the storage circuit consists of two subtracting devices connected in series, while a delay line and an integrator without resetting [sbros] is connected in parallel to each of them. The gain in the signal-to-noise ratio from use of the proposed circuit for processing the signal received amounts to eight times (in power) in comparison with well-known circuits. 2 ill. V.R.

1/1

- 67 -

Plant Pathology

USSR

UDC 632.4:582.285.22:633.11

PORODENKO, V. V., All-Union Institute of Plant Pathology, B. Vyazemy

"Methods of Calculating the Incubation Period of the Agent of Stem Rust of Wheat"

Leningrad, Mikologiya i Fitopatologiya, No 6, 1972, pp 277-283

Abstract: Weather conditions are among the most important factors affecting the various stages of the pathological process (onset of infection, duration of the incubation period, etc.). Uredospores cannot germinate and infect wheat unless drops of moisture are present. The rate of germination is controlled by the air temperature. After calculating the minimum exposure of plants to moisture needed to infect them with the uredospores of stem rust in relation to the ambient temperatures prevailing during the moist period and the duration of the incubation period of the pathogen in relation to the ambient temperatures, the author prepared nomograms that can be easily used to determine when the plants should be treated with fungicides. The nomograms indicate for the period from April 1 to June 30 the probable date of infection, mean annual ambient temperature, date of end of infectious period, and date of end of the incubation period when there are deviations from the normal temperatures.

1/1

USSR

P  
POROKHOV, O. N.

UDC 621.391

"Noise Immunity in PCM Signal Reception"

Moscow, Elektrosvyaz', No. 8, 1970, pp 76-78

Abstract: Defining synchronous telegraphy as the process of transmitting binary symbols in a pulse code modulation system by means of a signal characterized by a shift in voltage polarity only at the limits of the cyclic intervals, the author devises a circuit for an optimal receiver of this type of signal against a background of normal white noise. To do this, he uses the method of optimal filtration of single pulse signals. Explaining that a signal of single pulses differs from pulse code modulation, he shows that regardless of this difference, optimal filtration of continuous pulse sequences using the passive filters for single pulses is possible. He derives an expression for the total probability of the appearance of errors in the use of one such filter from the formula for the probability of error in receiving a signal of the i-th form. This brief communication is accompanied by a block diagram of the optimal receiver and a curve giving the probability of error appearance as a function of the signal-to-noise ratio at the output of the optimal filter compatible with square-pulse signals.

1/1

- 100 -

POROKHOVNICHENKO, L.P.

SP 45 C700 08  
C-73

5

VII-9. EFFECT OF THE CRYSTALLIZATION CONDITIONS ON THE PROPERTIES OF THE TRANS-  
IENT LAYERS IN AUTOEPITAXIAL STRUCTURES OF GALLIUM ARSENIDE.

Article by L. G. Lavrent'yeva, L. P. Porokhovnikhenko, L. V. Ikonina, L. N.  
Kashalilina, N. N. Ivanova, Tomsk: Novosibirsk, 1972, 11 p. (In Russian)  
Soviet Science Publications, Moscow, 1972, 12-17 June.

This paper is devoted to the discovery of the cause of the appearance  
of transient layers in epitaxially grown GaAs. For this purpose a study was  
made of the effect of the type of substrate, the surface quality and the crystal-  
lization conditions in the initial stage of the process on the properties of  
the transient region.

The epitaxial layers were grown in the Ga-AsCl<sub>3</sub>-H<sub>2</sub> system. The process  
was realized for ordinary preparation of the substrates and, in addition, with  
annealing and gas etching. The duration of the experiment varied from several  
minutes to two hours. The uniformity of the distribution of the admixture  
with respect to thickness of the epitaxial layer was estimated by the break-  
down voltage of the point contact on a low-angle section and by layer by  
layer measurement of the Hall effect. The microtopography of the surface was  
studied under an electron microscope.

By using the electron microscope, a new type of growth defect was dis-  
covered. The density of these defects is connected with the method of treat-  
ing the substrates directly before epitaxial growth. It was found that the  
growth rate and the level of alloying the epitaxial layers depends on the den-  
sity of these defects. By regulating the process conditions in the initial  
stage of growth, the width of the transient region can be varied. Possible  
mechanisms of the formation of the transient layers are discussed.

1/2 009 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--SYNTHESIS OF STRUCTURALLY REGULAR POLYPEPTIDES CONTAINING ALANINE  
AND N PRIME EPSILON BENZOXYCARBOXYLLYSINE -U-  
AUTHOR--(04)--POROSHIN, K.T., MARYASH, L.I., GRECHISHKO, V.S., SHIBNEV, V.A.  
COUNTRY OF INFO--USSR  
SOURCE--DOKL. AKAO. NAUK TADZH. SSR 1970, 13(4), 19-21  
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--PEPTIDE, ALANINE, ORGANIC SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3002/1302

STEP NO--UR/0425/70/013/004/0019/0021

CIRC ACCESSION NO--AT0128716

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

2/2 009

CIRC ACCESSION NO--AT0128716

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. N PRIME EPSILON -TOSYL GROUP USED EARLIER (CA68, 30013C) WAS REPLACED BY AN N PRIME EPSILON -BENZOXYCARBONYL GROUP (CBZ), WHICH CAN BE REMOVED FROM THE PEPTIDE UNDER MORE GENTLE CONDITIONS. SYNTHESIS OF STARTING MONOMERS WAS CARRIED OUT BY THE METHOD OF MIXED ANHYDRIDES. FACILITY: INST. KHIM., DUSHANBE, USSR.

UNCLASSIFIED

1/3 008 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--SYNTHESIS OF POLYPEPTIDES OF REGULAR STRUCTURE CONTAINING SERINE  
AND GLUTAMIC ACID, AND MODELING NONPOLAR REGIONS OF THE COLLAGEN PROTEIN  
AUTHOR--(04)-SHIBNEV, V.A., KHALIKOV, SH.KH., FINGENOVA, M.P., POROSHIN,  
~~K.T.~~  
COUNTRY OF INFO--USSR *P*  
SOURCE--IZV. AKAD. NAUK SSSR. SER. KHIM. 1970, (4), 880-5  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--PEPTIDE, CHEMICAL SYNTHESIS, AMINO ACID, COLLAGEN  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3004/0482 STEP NO--UR/0062/70/000/004/0830/0885  
CIRC ACCESSION NO--AP0131119

UNCLASSIFIED



2/3 008

UNCLASSIFIED

PROCESSING DATE--13NOV76

CIRC ACCESSION NO--AP0131119

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. TREATING 5 G HYDROXYPROLINE IN 88PERCENT HCO SUB2 H WITH 20 ML AC SUB2 O AT 10DEGREES AND KEEPING THE MIXT. 1.2 HR, FINALLY AT 30DEGREES, GAVE 96PERCENT FORMOXYPROLINE (IA), M. 127DEGREES. ADDING 2 G POCL SUB3 IN CH SUB2 CL SUB2 TO 2.1 G CARBOBENZOXYGLYCINE AND 12 ML PYRIDINE, FOLLOWED BY 2.17 G 2,4,6 CL SUB3 C SUB6 H SUB2 OH (I) AT 0DEGREES, AND KEEPING THE MIXT. 1 HR GAVE 91PERCENT CARBOBENZOXYGLYCINE 2,4,6 TRICHLOROPHENYL ESTER, M. 109DEGREES, WHICH WITH 40PERCENT HBR IN ACOH GAVE IN 25 MIN GLYCINE 2,4,6 TRICHLOROPHENYL ESTER HBR (II), DECOMPD. 215DEGREES. FORMYGLYCINE (4.5 G) AND 8.5 G I IN MEON H SUB2 O AT MINUS 4DEGREES TREATED WITH 9 G DICYCLOHEXYLCARBODIIMIDE (DCC) OVERNIGHT GAVE FORMYGLYCINE 2,4,6 TRICHLOROPHENYL ESTER, M. 105-7DEGREES, WHICH WITH ETOH AQ. HCL 2.5 DAYS GAVE 62PERCENT GLYCINE 2,4,6 TRICHLOROPHENYL ESTER HCL, DECOMPD. 210DEGREES. TREATING FORMYLGLUTAMIC ACID GAMMA BENZYL ESTER WITH DMF AND, AT MINUS 4DEGREES, WITH DCC, THEN II AND ET SUB3 N, AND KEEPING THE MIXT. 2 DAYS, GAVE 85PERCENT FORMYLGLUTAMYL (GAMMA BENZYLESTER) GLYCINE 2,4,6 TRICHLOROPHENYL ESTER, M. 110-12DEGREES, WHICH WITH AQ. ALC. HCL SEVERAL DAYS GAVE 61.5PERCENT 2,4,6 TRICHLOROPHENYL ESTER OF GLUTAMYL (GAMMA BENZYL ESTER) GLYCINE HCL (III), M. 134-7DEGREES. IA (3.22 G) IN DMF TREATED WITH 4.5 G DCC, AND AT MINUS 50DEGREES WITH 6.4 G III AND 1.8 ML ET SUB3 N GAVE IN 2 DAYS 40PERCENT 2,4,6 TRICHLOROPHENYL ESTER OF FORMYLHYDROXYPROLYL GLUTAMYL (GAMMA BENZYL ESTER) GLYCINE, AN OIL, WHICH WITH HCL IN AQ. MEON 2 DAYS GAVE 70PERCENT 2,4,6 TRICHLOROPHENYL ESTER OF HYDROXY PROLYLGLUTAMYL (GAMMA BENZYL ESTER) GLYCINE HCL, AN OIL.

UNCLASSIFIED

3/3 008

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0131119

ABSTRACT/EXTRACT--THIS IN ME SUB2 SD WITH ET SUB3 N 10 DAYS GAVE 90PERCENT POLY(TRIPEPTIDE) (OF HYDROXYPROLYLGLUTAMYL (GAMMA BENZYL ESTER) GLYCINE), A DARK SOLID, (ALPHA) SUBD PRIME27 MINUS 20.5DEGREES, MOL. WT. SIMILAR TO 85000. THIS HYDROGENATED OVER PD IN MECH TO POLY(HYP GLU GLY), WHOSE IR SPECTRUM INDICATED THE COLLAGEN TYPE STRUCTURE. TREATING CARBOBENZOXYSERINE WITH DCC IN DMF, FOLLOWED BY GLYCINE 2,4,6 TRICHLOROPHENYL ESTER HBR AND ET SUB3 N GAVE IN 24 HR IN THE COLD 80.5PERCENT 2,4,6 TRICHLOROPHENYL ESTER OF CARBOBENZOXYSERYLGLYCINE, M. 124-6DEGREES, WHICH IN MECH WAS HYDROGENATED OVER PD TO THE 2,4,6 TRICHLOROPHENYL ESTER OF SERYLGLYCINE, ISOLATED AS HCL SALT, DECOMP. 165-70DEGREES. SIMILARLY WERE OBTAINED: 80PERCENT 2,4,6 TRICHLOROPHENYL ESTER OF CARBOBENZOXY HYDROXYPROLYLSERYLGLYCINE, M. 153-4DEGREES; 2,4,6 TRICHLOROPHENYL ESTER OF HYDROXYPROLYLSERYLGLYCINE HCL, M. 180DEGREES; AND POLY (HYP SER-GLY) (ALPHA) SUBD PRIME27 MINUS 15.4DEGREES, WITH MOL. WT. 5500.

FACILITY: INST. MOL. BIOL., MOSCOW, USSR.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--SYNTHESIS OF THE 2,4,6,TRICHLOROPHENYL ESTER OF THE PENTAPEPTIDE  
GLY-ALA-GLY-GLU-GLY -U-  
AUTHOR-(03)-ZEGELMAN, A.B., YUSUPOV, T.YU., POROSHIN, K.T.  
COUNTRY OF INFO--USSR  
SOURCE--DOKL. AKAD. NAUK TADZH. SSR 1970, 13(3), 22-3  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--PEPTIDE, ESTER, CHLORINATED ORGANIC COMPOUND, BENZENE  
DERIVATIVE, CHEMICAL SYNTHESIS  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1998/0728 STEP NO--UR/0425/70/013/003/0022/0023  
CIRC ACCESSION NO--AT0121387  
UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0121387

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. (IN THIS ABSTR. Z EQUALS PINCH SUB2 O SUB2 C AND 2,4,6, TRICHLOROPHENYL EQUALS C SUB6 H SUB2 CL SUB3. ALANINE AND GAMMA METHYLGLUTAMATE ARE IN THE L FORM). AS PART OF A STUDY OF THE STRUCTURE OF SILK FIBROIN THE PENTAPEPTIDE Z-GLY-ALA-GLY-GLU(OMe)-GLY-OC SUB6 H SUB2 CL SUB3 (I) WAS PREPD. USING THE MIXED CARBOXYLIC CARBONIC ANHYDRIDE METHOD WAS PREPD. Z-ALA-GLY-OMe, M. 96DEGREES. REMOVAL OF THE Z GROUP IN TURN YIELDED H-ALA-GLY-OMe.HBR (II), M. 160DEGREES. Z-GLY-ALA-GLY-OMe (III), M. 114-15DEGREES, WAS PREPD. BY THE ADDN. OF Z-GLY-OH TO II. III WAS CONVERTED INTO THE CORRESPONDING HYDRAZIDE (IV), M. 182DEGREES. THE Z GROUP WAS REMOVED FROM Z-GLY-OC SUB6 H SUB2 CL SUB3 (M. 2130DEGREES) AND THE DEPROTECTED ESTER COMBINED WITH Z-GLU(OMe)-OH TO YIELD THE FULLY PROTECTED DIPEPTIDE Z-GLU(OMe)-GLY-OC SUB6 H SUB2 CL SUB3 (V), M. 118DEGREES. THE Z GROUP WAS REMOVED FROM V AND THE DIPEPTIDE ESTER ISOLATED AS THE HBR SALT (VI) IN THE FORM OF AN OIL. IV AND VI WERE COMBINED BY THE AZIDE METHOD TO YIELD I, (ALPHA) PRIME21 SUB0 MINUS 17.6DEGREES (OMF). FACILITY: TADZH. GOS. UNIV. IM. LENINA, DUSHANBE, USSR.

UNCLASSIFIED

1/2 007 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--USE OF VARIOUS ACTIVATED ESTERS IN THE SYNTHESIS OF REGULAR  
POLYPEPTIDES, AND THEIR COMPARATIVE EVALUATION -U-  
AUTHOR--(03)-SHIBNEV, V.A., CHUVAYEVA, T.P., POROSHIN, K.T. P

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (1), 121P9

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ESTER, PEPTIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1986/1922

STEP NO--UR/0062/70/000/001/0121/0129

CIRC ACCESSION NO--AP0103649

UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0103649

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE SYNTHESIS OF POLYPEPTIDES WITH REGULAR CHAIN STRUCTURE, THE HIGHEST MOL. WTS. WERE OBTAINED VIA THE PENTACHLOROPHENYL ESTERS, FOLLOWED IN TURN BY: N, HYDROXYSUCCINIMIDYL, 2,4,5, TRICHLOROPHENYL, 2,4,6, TRICHLOROPHENYL, RHO, NITROPHENYL, 3, HYDROXYPYRIDYL, PENTAFLUOROPHENYL, AND 8, HYDROXYQUINOLYL ESTERS. HOWEVER OWING TO LOW SOLY. OF MANY POLYPEPTIDES WITH RELATIVELY LARGE MOL. WT., THE DESIRABILITY OF IMPROVED SOLY. DURING THE HANDLING MAKES 2,4,5, TRICHLOROPHENYL AND N, HYDROXYSUCCINIMIDYL ESTERS VALUABLE. THE REACTION WAS APPLIED TO THE INDICATED ESTERS OF HBR OR HCL SALTS OF GLYCYLPROLYLGLYCINE OR THE ANALOG OF GLYCYLHYDROXYPROLYLHYDROXYPROLINE, AS WELL AS THE GLYCYLPROLYLHYDROXYPROLINE ANALOG. THE REACTIONS WERE RUN IN ME SUB2 SO IN THE PRESENCE OF ET SUB3 N AT ROOM TEMP. SEVERAL DAYS. BY THIS METHOD THE PENTACHLOROPHENYL ESTER YIELDED POLYMERIC POLYPEPTIDES OF INDICATED MOL. WTS.: GLY-HYP-HYP OVER 15,000 AND REACHING 160,000; GLY-PRO-HYP 100,000; GLY-ALA-HYP OVER 25,000.

UNCLASSIFIED

1/3 018 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--SYNTHESIS OF POLY, GLYCL, SERYL, HYDROXYPROLINE AND  
POLY, GLYCYL, SERYL, PROLINE POLYPEPTIDES USING PENTACHLOROPHENYL ESTERS.  
AUTHOR--(04)-SHIBNEV, V.A., KHALIKOV, SH.KH., FINOGENOVA, M.P., POROSHIN,  
K.T.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 399-404  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--CHEMICAL SYNTHESIS, PEPTIDE, POLYMER, PROLINE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1997/0816 STEP NO--UR/0062/70/000/002/0399/0404  
CIRC ACCESSION NO--AP0119722  
UNCLASSIFIED

2/3 018

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119722

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. Z EQUALS CARBOBENZOXY THROUGHOUT. TO 5 G SERINE IN 25 ML SN NAOH WAS ADDED AT NEGATIVE 5 DEGREES OVER 1 HR 22.5 ML 2N NAOH AND 11.5 G Z, GLY, CL AT PH 8-9, AND THE MIXT. WARMED TO 5 DEGREES AND KEPT 40 MIN TO YIELD 48.5 PERCENT Z, GLY, SER (I), M. 98-101 DEGREES. Z, PRO IN ETOAC AT NEGATIVE 6 DEGREES WAS TREATED WITH DICYCLOHEXYLCARBODIIMIDE (DCC) AND C SUB6 CL SUB5 OH TO YIELD AFTER 1 DAY, FINALLY AT ROOM TEMP., Z, PRO, OC SUB6, CL SUB5, OIL, (ALPHA) PRIME 22 D NEGATIVE 40.3 DEGREES, WHICH IN ACOH TREATED WITH 40 PERCENT HBR IN ACOH AT NEGATIVE 20 DEGREES 0.5 HR GAVE PRO, OC SUB6 CL SUB5, M. 112-14 DEGREES, WHICH WITH DCC IN DMF CONVERTED I IN 1 DAY, FINALLY AT ROOM TEMP., INTO 67.5 PERCENT Z, GLY, SER, PRO, OC SUB6 CL SUB5, M. 112-14 DEGREES, WHICH WAS HYDROGENATED OVER PD IN ME OH, ETOH, HCL TO GLY, SER, PRO, OC SUB6 CL SUB5. HCL, M. 170 DEGREES; HBR IN MEND SUB2 IN 20 MIN SIMILARLY GAVE THE CORRESPONDING HBR SALT, M. 187-9 DEGREES. THE LATTER IN ME SUB2 SO WITH ET SUB3 N IN 7 DAYS IN A SEALED TUBE GAVE SOL. AND INSOL. PRODUCTS, IDENTIFIED AS POLY(GLY, SER, PRO), MOL. WT. UP TO 2500. Z, HYP IN THF WITH ISU, BUO SUB2 CCL AND ET SUB3 N, FOLLOWED BY C SUB6 CH SUB5 OH GAVE 89 PERCENT PENTACHLOROPHENYL ESTER, M. 162-4 DEGREES, WHICH WITH HBR IN MEND SUB2 AT NEGATIVE 5 DEGREES 20 MIN GAVE HYP, OC SUB6 CL SUB5. HBR (II, HBR), DECOMPO. 210 DEGREES.

UNCLASSIFIED



3/3 018

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119722

ABSTRACT/EXTRACT--I IN DMF WITH ET SUB3 N TREATED IN THE COLD WITH ISO, BUO  
SUB2 CCL, FOLLOWED BY II, GAVE OVERNIGHT 42PERCENT Z, GLY, SER, HYP, OC SUB6  
CL SUB5, M. 157-9DEGREES, WHICH IN CF SUB3 CO SUB2 H WITH HBR 0.5 HR  
GAVE GLY, SER, HYP, OC SUB6 CL SUB5, HBR DECOMPD. 178-80DEGREES, WHICH WITH  
ET SUB3 N IN ME SUB2 SO 5 DAYS GAVE POLY(GLY, SER, HYP), MOL. WT. IS  
SIMILAR TO 6000.

FACILITY: INST. MOL. BIOL., MOSCOW, USSR.

UNCLASSIFIED

Alkaloids

USSR

UDC 947.9<sup>13</sup>

POROSHIN, K. T. (DECEASED), SADYKOV, YU. D., KHAYDAROV, K. KH., VOVSI-KOL'-  
SHEYN, A. L., DEGTAREV, V. A., and BURICHENKO, V. K., Institute of Chemistry  
Academy of Sciences TadzhSSR

"Physiologically Active Papaverine Derivatives"

Tashkent, Khimiya Prirodnikh Soyedineniy, No 1, 1972, pp 83-84

Abstract: Papaverine reacted with acyl chlorides of sulfonic acids, carboxylic acids and chloroacetic acid, yielding N-benzenesulfonylpapaverinium chloride, m.p. 200° (dec.); N-benzoylpapaverinium chloride, m.p. 193°; N-acetylpapaverinium chloride, m.p. 217° (dec.); and the chloride of N-papaverineacetic acid, m.p. 210° (dec). The products exhibited hypotensive and spasmolytic properties.

AAC0044621

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

243005 MEMORY DISC. The teeth (1) of the disc, which are radially spaced, can be in two possible states, determined by the position of the lever (5). In one position a spring (4) is forced away from the tooth and the spindle (2) does not offer any contact to an external gear (6). The levers (5) can be operated by relays and they can also be programmed.

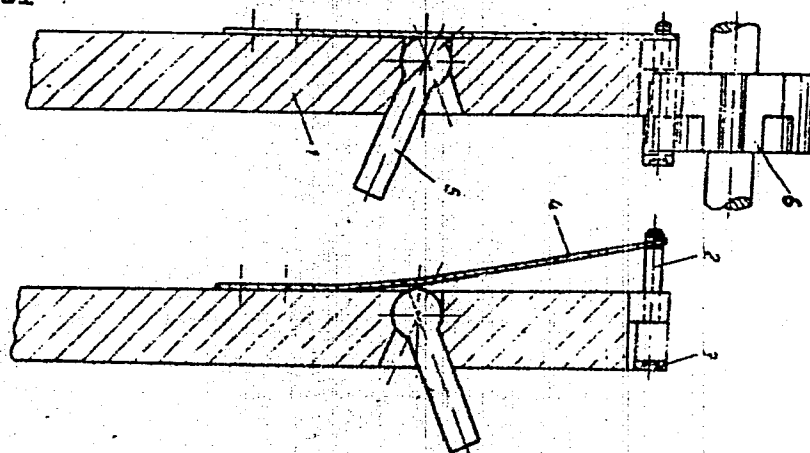
19.10.67 as 1191329/18-24.M.K.PROSHIN.DES.OFFICE  
OF "VORKUTAUGOL" CONCERN (25.9.69) Bul 16/5.5.69.  
Class 21c.81e. Int.Cl.G 05f, B 65h.

AUTHOR: Poroshin, M. K.

Proyektno-Konstruktorskoye Byuro Kombinata "Vorkutaugol"

19771298

AA0044621



2/2

19771299

gc

Ion Exchange

USSR

UDC 546.04;546.62'33

TOMILOV, N. P., BERGER, A. S., GRANKINA, V. I., POROSHINA, I. A.

"Ion-Exchange Properties of Sodium Hydroalumocarbonate"

Novosibirsk, Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSR -- Seriya Khimicheskikh Nauk, No 1, 1973, pp 88-92

Abstract: The results are presented from a study of the equilibrium distribution of cations ( $\text{Na}^+$  and  $\text{Ag}^+$ ) and the kinetics of the exchange process between sodium hydroalumocarbonate and  $\text{AgNO}_3$  solutions. The cation-exchange isotherm was determined at  $25^\circ \text{C}$  for  $\text{Na}_2\text{O} \cdot \text{Al}_2\text{O}_3 \cdot 2\text{CO}_2 \cdot 3\text{H}_2\text{O}$  and a mixture of sodium nitrate and silver nitrate solutions. With the ion fraction of silver in the equilibrium liquid phases equal to or greater than 0.1, the degree of substitution of  $\text{Ag}^+$  for  $\text{Na}^+$  in the equilibrium solid phases is 97-99.5%. The phases with variable  $\text{Na}^+$  and  $\text{Ag}^+$  content are members of a continuous series of solid solutions between the sodium and silver forms of hydroalumocarbonate. The limiting stage of the exchange is diffusion of the  $\text{Na}^+$  and  $\text{Ag}^+$  ions in the solid phase. The mutual diffusion coefficient of the indicated ions determined on the basis of the kinetic measurements  $\bar{D}_{\text{Na,Ag}} = 5.7 \cdot 10^{-6} \text{ cm}^2/\text{sec}$  agrees satisfactorily with the calculated value of  $5.1 \cdot 10^{-6} \text{ cm}^2/\text{sec}$ .

1/1

1/2 026 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--SYNTHESIS AND SOME PROPERTIES OF HYDROGALLOCARBONATES OF SODIUM AND  
POTASSIUM -U-  
AUTHOR--(05)-TCHILOV, N.P., BERGER, A.S., VORSINA, I.A., POROSHINA, I.A.,  
MERKULOV, A.G.  
COUNTRY OF INFO--USSR  
SOURCE--IZVESTIYA SIBIRSKOGO OTDELENIYA AKADEMII NAUK SSSR, NO 4, SERIYA  
KHIMICHESKIKH NAUK, 1970, NR 2, PP 87-95  
DATE PUBLISHED--70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--CARBONATE, SODIUM COMPOUND, POTASSIUM COMPOUND, X RAY  
ANALYSIS, IR SPECTRUM  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1993/0584 STEP NO--UR/0289/70/000/000/0087/0095  
CIRC ACCESSION NO--AP0113475  
UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0113475

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HYDROGALLOCARBONATES OF SODIUM AND POTASSIUM  $\text{Na SUB2 O.GA SUB2 O SUB3. 2 CU SUB2.4H SUB2 O AND K SUB2 O.GA SUB2 O SUB3.2CO SUB2.3H SUB2 O}$  WERE PREPARED FROM THE SOLUTION MIXTURE OF GALLATES AND BICARBONATES OF SODIUM AND POTASSIUM RESPECTIVELY. THE PHYSICO CHEMICAL CHARACTERISTICS OF THESE SUBSTANCES SUCH AS THE REFRACTION OF LIGHT, SPECIFIC GRAVITY, DIMENSIONS OF CELLS WERE DETERMINED. THE PROCESS OF THERMAL DECOMPOSITION OF SODIUM AND POTASSIUM HYDROGALLOCARBONATES WAS STUDIED UNDER STATIC AND DYNAMIC CONDITIONS OF HEATING AND UNDER HIGH TEMPERATURE X RAY ANALYSIS. SOME PECULIARITIES OF IR SPECTRA OF OBTAINED COMPOUNDS WERE ALSO DISCUSSED.

FACILITY: INSTITUT FIZIKO-KHIMICHESKIKH OSNOV PERERABOTKI MINERAL'NOGO SYR'YA SO AN SSSR, NOVOSIBIRSK.

UNCLASSIFIED

USSR

UDC: 539.89:535.3

BUYNOVSKI, V., POROVSKI, S., and LAYSAAR, A. I.

"Device for Optical Research Under High Pressure at Nitrogen Temperatures"

Moscow, Pribery i tekhnika eksperimenta, No 1, 1973, pp 224-228

Abstract: The purpose of the device described in this paper is to investigate the optical characteristics of solids under hydrostatic pressure and low temperatures. It compresses helium or some other inert gas up to a level of 15 kbar, and differs from similar instruments by its simple construction and operational reliability under heavy pressure. Cross-sectional drawings are given of the gas compression system, of the high-pressure optical chamber, and of the nitrogen cryostat, and all three components are described in detail. As an example of the work the device is capable of doing, the authors reproduce the edge absorption spectra of a 83-micron thick GaSe monocrystal measured under various pressures and temperatures. They thank the personnel of the high-pressure laboratory of the Polish Academy of Science Institute of Physics for the high quality of the equipment.

1/1

- 137 -



USSR

UDC 550.838

P  
POROZOV, V. A.

"Metal Detector"

Moscow, Otkrytiya, Oizobreteniya, Promyshlennyye Obrabotki, Tovarnyye Znaki, No 16,  
8 May 70, p 61, Patent No 270124, Filed 30 Jan 67

Translation: 1. This Author's Certificate introduces a metal detector containing emitting and receiving coils, an excitation generator, an amplifier and an indicator. The device is distinguished by the fact that in order to increase its sensitivity, the receiving coil is located in a plane parallel to the plane of the emitting coil and neutral with respect to the field of the emitting coil.

2. A second metal detector like item 1 is introduced. It is distinguished by the fact that in order to eliminate the effect of an external field, it contains a second receiving coil arranged symmetrically with the first.

3. A third metal detector like items 1 and 2 is introduced. It is distinguished by the fact that the receiving coils are executed from two series-connected sections.

1/1

POROTIKOV, V. I.

*biophysics*

UNCLASSIFIED

DIAG

SECTION III  
50. Scientific Achievement  
Facilities

PCS-83  
June 91

Name: Institute of Biophysics, Pushchino  
Description:

(U) During this quarterly reporting period, 13 new articles were located from the Institute of Biophysics at Pushchino. On the basis of these articles, it was possible to associate 19 new persons with the Institute. These persons are listed below together with the subjects and dates of the articles:

|                       |                   |           |
|-----------------------|-------------------|-----------|
| Baeremanov, O. K.     | endocrine system  | 1970 (17) |
| Borotouckiy, G. N.    | phospholipids     | 1970 (18) |
| Gaziyev, A. I.        | DNA               | 1970 (19) |
| Ivanikhova, A. G.     | plant physiology  | 1969 (20) |
| Kiselev, Ye. Ye.      | muscle physiology | 1970 (21) |
| Kravchenko, N. A.     | EPR spectra       | 1970 (22) |
| Narimanov, A. A.      | radiation effects | 1970 (23) |
| Panov, A. A.          | endocrine system  | 1970 (17) |
| Paseyan, V. G.        | EPR spectra       | 1970 (22) |
| Porotikov, V. I.      | muscle physiology | 1970 (21) |
| Postolova, G. B.      | chromatography    | 1970 (24) |
| Rashin, V. D.         | phospholipids     | 1970 (18) |
| Revin, A. F.          | radiation effects | 1970 (23) |
| Sukhoruchikova, L. V. | chromatography    | 1970 (24) |
| Tincher, K. S.        | plant physiology  | 1969 (20) |
| Vasilev, Yu. V.       | radiation effects | 1970 (23) |
| Zaitin, A. N.         | hydrogen peroxide | 1970 (25) |
| Zakrzhevskaya, D. T.  | DNA               | 1970 (19) |
| Zuzin, A. M.          | DNA               | 1970 (19) |

Acc. Nr:

AP0049748

Abstracting Service:  
CHEMICAL ABST. 5/70

Ref. Code:

UR0409

100421t Benzoindoles. I. Synthesis of 1-benzyl-4,9-dioxo-4,9-dihydrobenzo[f]indole. Suvorov, N. N.; Porotikova, V. A.; Fraksina, V. N. (Mosk. Khim.-Technol. Inst. im. Mendeleeva; Moscow, USSR). *Khim. Geterotsikl. Soedin.* 1970, (1), 24-6 (Russ). To 6.9 g Mg turnings in 70 ml dry anisole was added dropwise during 45 min 45 g EtI, the mixt. heated 45-60 min at 60-70° cooled, 19.6 g pyrrole in 70 ml anisole added during 30 min, stirred 15 min at room temp., then at 50-60° till bubbles of C<sub>2</sub>H<sub>4</sub> ceased to evolve, 43.4 g phthalic anhydride in 140 ml anisole added in 2-3 min at room temp. and the mixt. heated 1-1.5 hr on a boiling water-bath to give 18.8 g o-(2-pyrrolocarbonyl)benzoic acid (I), m. 184-5°, and 3 g II, b<sub>m</sub> 240°, m. 240-1° (Me<sub>2</sub>CO). Attempts at reducing the keto-group in I to CH<sub>2</sub>-group gave a product which produced a characteristic bluish-violet color with Ehrlich reagent, but the free reduced acid or its salt was not iso-

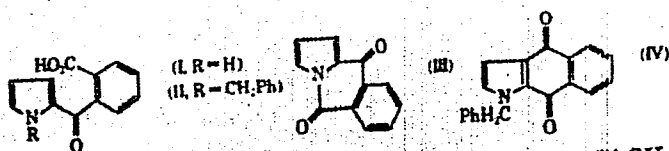
1/2

REEL/FRAHE

19801661

7

AP0049748



lated. A mixt. of 2.15 g I, 40 ml 35% KOH, and 6.5 g PhCH<sub>2</sub>Cl was boiled 6 hr to yield 2.45 g III, m. 139-40° (C<sub>6</sub>H<sub>5</sub>). To 1.6 g III in 200 ml warm o-xylene was added in small portions during 30 min 10 g P<sub>2</sub>O<sub>5</sub>, and the mixt. boiled 1.5 hr to give 0.3 g title compd. (IV), m. 178-9° (alc.).

S. K. Banjerjee

2/2

di

19801662

USSR

UDC: 621.373.42.029.64(088.8)

POBOTNIKOV, D. A.

"A Self-Excited Harmonic Oscillator for the SHF Range"

USSR Author's Certificate No 262991, filed 8 Oct 68, published 2 Jun 70  
(from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11D501 P)

Translation: This Author's Certificate introduces a self-excited harmonic oscillator for the SHF band which contains a cermet triode and a tank system made in the form of two interconnected coaxial resonators with feedback elements made in the form of a metal pin located in the cavity of the resonators and a mechanical drive for moving the pin. To expand the dynamic range of continuous control of oscillator feedback, the pin is connected to the mechanical drive through a dielectric rod. V. P.

1/1

- 14 -

USSR

UDC: 621.373.421.14:621.372.413:621.372.522

POROTNIKOV, D. A.

"An SHF Self-Oscillator With Controllable Feedback"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki, No 22, 1970, Soviet Patent No 275158, Class 21, filed 24 Dec 68, pp 38-39

Abstract: This Author's Certificate introduces an SHF self-oscillator with controllable feedback realized by a capacitive rod passing through the common wall of the input and output resonators and a mechanical drive located on the outer wall of the input resonator. This drive includes a metal rod which acts on the feedback rod through a component made of a dielectric material. As a distinguishing feature of the patent, the limits of coupling coefficient control are extended and reliability is improved by putting plates on the ends of the feedback rod whose planes may be at mutual angles from 0 to 180° depending on the required slope of the change in coupling. In order to ensure rotation of the rod itself about its own longitudinal axis with a variable angle between the planes of the plates and the vectors of the electric and magnetic fields, the feedback rod itself is connected to the mechanical drive by some such means as a pair of gears made of a dielectric material and forming a conical couple. One of the gears is fastened to the axis of the rod, and the other is fastened to the axis of the mechanical drive rod.

1/1

1/2 020 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--COMPLEX PROTECTIVE RELAY OPERATION SIGNALLING APPARATUS USING NON  
CONTACTING COMPONENTS -U-  
AUTHOR--(04)-PAPERNO, L.B., ARONSON, V.N., POROTSKIY, B.S., VENTSLOVAS,  
V.I.  
COUNTRY OF INFO--USSR  
SOURCE--ELEKT. STANTSII (USSR), VOL. 41, NO. 3, P. 56-9 (1970)  
DATE PUBLISHED-----70  
SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.  
TOPIC TAGS--ELECTRIC RELAY, THYRATON, SIGNAL ELEMENT, COLD CATHODE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3007/0505 STEP NO--UR/0104/70/041/003/0056/0059  
CIRC ACCESSION NO--AP0135968  
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0135968

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A DESCRIPTION IS GIVEN OF THE BASIC PRINCIPLE OF COMPLEX PROTECTIVE RELAY OPERATION SIGNALLING EQUIPMENT EMPLOYING NON CONTACTING COMPONENTS WHICH HAS BEEN UNDER TEST IN THE LITORSK STATE REGIONAL POWER STATION. THE EQUIPMENT CONSISTS OF COLD CATHODE THYRATRON SIGNALLING ELEMENTS, A CENTRAL ACOUSTIC WARNING CIRCUIT AND A CENTRAL VISUAL WARNING CIRCUIT FOR UNRECORDED SIGNALS.

UNCLASSIFIED



USSR

UDC 51:801

PORSHNEVA, V. N.

"Parenthetic Structure Languages"

V sb. Teoriya yazykov i metody postroyeniya sistem programmir. (Language Theory and Methods of Constructing Programming Systems--collection of works), Kiev-Alushta, 1972, pp 48-59 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V531)

Translation: A study was made of the parenthetic structure grammars which are an expansion of the class of grammars of a simple parenthetic structure. An algorithm is presented for synthesizing an automaton with a stack memory (an MP-automaton) representing sets of its states of the language generated by the grammars. Some problems of the theory of formal languages are solved. It is noted that a variation of the presented synthesis algorithm together with imposition of defined restrictions on the grammars (and languages) and the procedures for giving them will permit the construction of MP-automata realizing lexical analysis together with syntactic control.

1/1

USSR

UDC 571.15.041

MEYERSON, F. Z., PANCHENKO, L. F., GOLUBEVA, L. Yu., LYUBIMTSEVA, O. N.,  
and PORTENKO, N. G., Institute of Normal and Pathological Physiology,  
Academy of Medical Sciences USSR, and Second Moscow Medical Institute  
imeni N. I. Pirogov, Moscow

"Activity of Lysosome Enzymes of the Myocardium on Adaptation to High-  
Altitude Hypoxia and in Heart Injuries"

Moscow, Doklady Akademii Nauk SSSR, Vol 195, No 2, 1970, pp 499-502

Abstract: Acute hypoxia causes labilization of lysosomes of the myocardium. It is assumed that the prophylactic effect in heart lesions of adaptation to high-altitude hypoxia involves an increase in the resistance of the lysosome system, together with an increased capacity to retain acid hydrolases in a latent state, so that these enzymes do not damage the tissue. To check the correctness of this assumption, the effects of adaptation to high-altitude hypoxia on the content of free and bound acid DNA-ase, acid RNA-ase and acid phosphatase in the myocardium were studied on rats without heart lesions, with heart hyperfunction produced by experimental coarctation of the aorta, and with sympathomimetic injury of the heart produced by administration of novodrine (isoproterenol) in a dose that produced

USSR

MEYERSON, F. Z., et al, Doklady Akademii Nauk SSSR, Vol 195, No 2, 1970, pp 499-502

lesions. The rats were maintained for 6 hours per day over a period of 40 days at a pressure corresponding to an altitude of 6,000 m (the pressure was gradually reduced during the first week and then kept at this level). For rats without heart lesions, adaptation to high altitude hypoxia in this manner increased the total content of each of the three enzymes in the myocardium by 1/4-1/3 above that in controls. The content of the free enzyme fractions decreased by 20-30%, while that of the bound enzymes increased by a factor of approximately 2.5. Hyperfunction of the heart resulted in a decrease of the total content of all three enzymes, both when it was induced in rats after adaptation to high-altitude hypoxia and in rats that had not adapted. The decrease was lower for adapted than for unadapted rats, amounting to 35 vs. 47, 0 vs. 34, and 37 vs. 64% for acid DNA-ase, RNA-ase, and phosphatase, respectively. The smaller drop in the total content of lysosome enzymes in adapted animals was due to the fact that the content of the bound fraction was relatively greater. Similar relationships were found for rats in which heart lesions were produced by administration of isoproterenol (novodrine).

2/2

USSR

UDC 612.014.21.015.12:(616.12:612.273.2.017.2

MEYERSON, F. Z., PANCHENKO, L. F., GOLJEEVA, L. Yu., LYUBIMSEVA, O. N., and  
~~PORTENKO, N. G.~~ Laboratory of Experimental Cardiology Institute of Normal and  
Pathological Physiology USSR, and Chair of Biochemistry Medicobiological Faculty,  
Second Moscow Medical Institute imeni N. I. Pirogov

"The Role of the Lysosome System in the Prophylactic Effect of Adaptation to High-  
Altitude Hypoxia in Disorders of the Heart"

Moscow, Kardiologiya, Vol 10, No 7, Jul 70, pp 71-79

Abstract: It was previously determined that systematic adaptation of animals to  
intermittent high-altitude hypoxia increases the resistance of the heart to acute  
stress. In an extension of this work, the lysosome systems containing protein  
hydrolases (e.g., DNA-ase, RNA-ase, and phosphatase) were studied, using trained  
and untrained rats. In trained animals, sudden high-altitude hypoxia was found to  
result in a general increase in the levels of the three lysosome protein ases (to  
124-135%), a decrease in the content of free protein ases (63.4-81.5%) and a marked  
increase in the level of bound protein ases (244-268%). In untrained animals,  
levels of all protein ases decreased except the level of bound RNA-ase, which  
increased to 140.2%. Similar results were obtained in the latter group under  
conditions of coarctation. Sudden hyperfunction of the heart in trained animals

1/2

USSR

MEYERSON, F. Z., et al., Kardiologiya, Vol 10, No 7, Jul 70, pp 71-79

results in a release of free protein ases and a decrease in other ases. It is generally concluded that the binding of protein ases resulting from intermittent adaptation to high-altitude hypoxia increases the resistance of the cardiac lysosome system to acute stress.

USSR

PORTENKO, N. I.

"Non-Negative Additive Functionals of Markov Processes and Certain Limit Theorems"

Teoriya sluchayn. protsessov [The Theory of Random Processes], No 1, Kiev, Nauk. Dumka Press, 1973, pp 86-107 (Translated from Referativnyy Zhurnal - Kibernetika, No 8, 1973, Abstract No 8 V68 by the author)

Translation: Non-negative additive functionals of markov processes are studied, defined by certain measures fixed in the phase space of the process. An integral equation is produced for the characteristic functions of such functionals. Theorems are proven on the continuous dependence of the solutions of the equations produced on measures with weak convergence of the measures. These results are then used to prove a limit theorem for a sequence of functionals defined by a discrete approximation of the process.

1/1

USSR

UDC: 536.532

PORTAZH, R. A., LAKH, V. I., STADNYK, B. I., The "Termopribor" Scientific Industrial Union

"A Device for Noncontact Measurement of the Surface Temperature of Moving Objects"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 31, Nov 71, Author's Certificate No 317922, Division G, filed 28 Apr 70, published 19 Oct 71, p 153

Translation: This Author's Certificate introduces a device for non-contact measurement of the surface temperature of moving objects. The device contains a stationary thin-walled hermetically sealed heat pickup with a temperature gauge such as a thermocouple, and a heat-protective jacket with shield. As a distinguishing feature of the patent, the design is simplified and measurement accuracy and reliability are improved by making the heat pickup in the form of a closed hollow body which forms a cavity in conjunction with the jacket, the ratio of the areas of input and output apertures being 3:1.

1/2

USSR

UDC 620.17

POTEMKINA, A. M.; KODNER, M. Ya., KUSHNEROV, Ye. A., and  
ANDREYEVA, N. P., Moscow

"On the Problem of Strength of Irregularly Heated Rotating  
Discs"

Kiev, Problemy Prochnosti, No 5, May 73, pp 18-23

Abstract: Cases of failure of not uniformly heated rotating discs were studied at rotations which are 1.5 times lower than the rotations at failure of discs with radially uniform temperature and 2 times lower than the rotations at failure calculated from average circular stresses. For the investigation of the dependence  $n_f = (\Delta t)$ , where  $n_f$  = rotations at failure, and for the analysis of experimental data,  $n_f$  values of investigated discs and of experimental discs of other authors (Menson, I.A.Kozlov) were calculated. At failure of discs by radial stresses, a sudden action of the radial temperature drop on the decrease of  $n_f$  at different plasticity  $\delta$  of the material was established. For  $\delta = 0.5-6\%$ , the temperature drop  $\Delta t = 755^\circ\text{C}$  decreased  $n_f$  from 55000 to 37000 rpm. The little effect of  $\Delta t$  on  $n_f$ , found by some authors, holds true in cases where the strength

1/2



USSR

POTEMKINA, A. M., et al., Problemy Prochnosti, No 5, May 73,  
pp 18-23

of discs is determined by circular stresses. Cases of considerable influence of temperature stresses on the supporting power of rotating discs were defined. Suggestions are given for projecting discs of modern high-temperature turbodynamos. Two figures, five tables, three formulas, six bibliographic references.

2/2

- 111 -

PUBLICATIONS

USSR

UDC 615.31:547.262]015.6

PORTNOV, A. A., and PYATNITSKAYA, I. N.

Klinika Alkogolizma (Clinical Aspects of Alcoholism), Leningrad, "Meditsina," 1971, 390 pp

Translation: Annotation: There is no need to say too much about the importance of studying chronic alcoholism as a special progressive disease characterized in most cases by an unfavorable prognosis. It is true that a vast mass of literature created by the efforts of Soviet and foreign researchers is dedicated to the problem of alcoholism. Nevertheless, many aspects of this problem are not yet fully elucidated. In this respect one may point first of all to those areas in the study of alcoholism in which the problems of its etiology, pathogenesis and therapy are being considered and also early diagnosis and the curtailing of public drinking.

In Soviet literature of the postwar period there are no monographs summarizing experience of systematic scientific study of the clinical aspects of alcoholism. In the available issues of the series "Biblioteka Prakticheskogo Vrach" [Library of the Practicing Physicians] clinical problems are only partially considered. These problems are treated more fully in the book by I. V. Strel'chuk published during the past year and dedicated to both the clinical

USSR

PORTNOV, A. A., and PYATNITSKAYA, I. N., Klinika Alkogolizma (Clinical Aspects of Alcoholism), Leningrad, "Meditsina," 1971, 390 pp

but also to the pharmacodynamic and social aspects of the problem of alcoholism.

Data on the clinical aspects and treatment of alcoholism obtained by the authors in the course of many years of clinical investigations are collated in this monograph. The syndrome variants of this type of addiction are fully presented; scientific and practical problems of early diagnosis and prophylaxis of alcoholism are examined. The monograph contains also a description of acute and chronic alcoholic psychoses, presented in the light of modern psychiatry.

The monograph is a valuable survey containing new data on the problem of alcoholism. Its entire content conveys a dynamic research principle, which imparts the necessary orderly arrangement, and adequate authenticity to the main conclusions.

The brilliant and detailed descriptions of the clinical observations in the text attract attention.

2/7

USSR

PORTNOV, A. A., and PYATNITSKAYA, I. N., Klinika Alkogolizma (Clinical Aspects of Alcoholism), Leningrad, "Meditsina," 1971, 390 pp

The description of the methods of prophylaxis and treatment of alcoholism is at the level of modern requirements and is complete.

The authors dwell for the first time on a number of new and problems never elucidated before: polynarcosis, alcoholism among women, criteria of early recognition, and clinical aspects of relapses -- all of considerable importance to the practicing physician. The entire work represents an original conception of one of the urgent problems of psychiatry.

The book is intended for physician-psychiatrists, neuropathologists, narcotics specialist, workers at scientific-research psychoneurological establishments, and teachers at schools of higher medical education.

The book will be useful not only to physician-psychiatrists, but also to representatives of other specialties -- and not only medical: socialologists, psychologists, teachers, and jurists,

3/7